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ABSAROKA FRONT HABITAT MANAGEMENT PLAN

U.S. Dept. of the Interior

⑥ 1986

COOPERATORS:

United States Department of Agriculture
Shoshone National Forest

Wyoming Game and Fish Department

Bureau of Land Management
Worland District

ABSAROKA FRONT HABITAT MANAGEMENT PLAN

W1-WHA-T10

1986

Grass Creek Resource Area
Worland District BLM
Meeteetse Ranger District, Shoshone National Forest
in Hot Springs and Park Counties, Wyoming

Prepared by: Jeffrey W. Denton
Wildlife Biologist

ABSTRACT

The Absaroka Front Habitat Management Plan (HMP) is being cooperatively developed under the authority of the Sikes Act by the Wyoming Game and Fish Department (WG&FD), Shoshone National Forest (SNF) and the Bureau of Land Management (BLM). Implementation will also be coordinated with the Wind River Indian Reservation, the Soil Conservation Service, private landowners and public land users.

The purpose of this HMP is to provide a mechanism for implementation of comprehensive management to improve, maintain and expand wildlife habitats and restore watershed conditions. The HMP area contains fragile watersheds and crucial habitats for a large variety of high interest wildlife species. These habitats have, over the last 100 years, deteriorated and continue to do so under the burden of conflicts with intensive livestock grazing, proliferating vehicular access, timber harvest, and rapidly accelerating as well as significant existing energy development. Continuation of present land use practices without a mechanism to consider habitat protection and restoration will result in continued deterioration of wildlife habitat and watershed values in the HMP area.

The ecosystem management approach will be used to attain long term wildlife and watershed objectives. It emphasizes integration of land management goals to ensure creation and maintenance of desired diversity and abundance of plants, animals, habitats and watershed conditions in an area. To facilitate this approach, the HMP area was divided into Habitat Analysis Blocks (HABs) which are areas relatively distinct from adjacent HABs in terms of wildlife use, human intrusion and habitat value. Comprehensive ecosystem management will be tailored to meet the wildlife and watershed needs of each HAB.

The HMP emphasizes threatened and endangered species (i.e., grizzly bear, bald eagle, Northern Rocky Mountain wolf, black-footed ferret, and peregrine falcon), wetlands, species requiring special habitats (i.e., cavity nesting birds, or old growth timber related species), and economically important species (elk, mule deer, moose, antelope, bighorn sheep, upland game, and trout). Special efforts will be made to meet T&E species national recovery plan objectives, WG&FD Strategic Plan goals, and other cooperating agency goals.

Habitat and human use management practices will be emphasized to meet specific habitat quality, quantity and diversity objectives. Objectives include managing forage, water, cover, and space features of habitat; controlling human intrusion into wildlife habitat; restoring priority species habitats to good or excellent condition, and managing wetland/aquatic habitats. Specific actions will include various vegetative manipulations (aspen treatment, prescribed fire, planting, etc.) watershed improvements (i.e., streambank restoration, trash catchers, spring and reservoir protection), land tenure adjustments, water developments, fence modifications, road and human use restrictions, application of habitat management guidelines, reintroduction of species, research and coordination with other public land uses.

If fully funded, expenditures would total an estimated $377,000 for the first five years of implementation. Projects will be implemented for approximately 30-40 years and maintenance of habitat improvements will be continuous.

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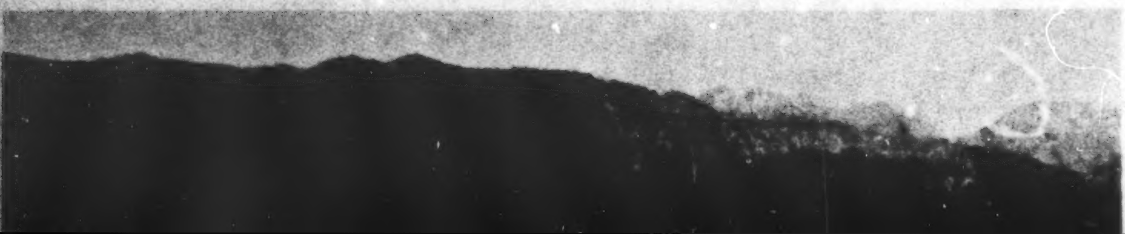

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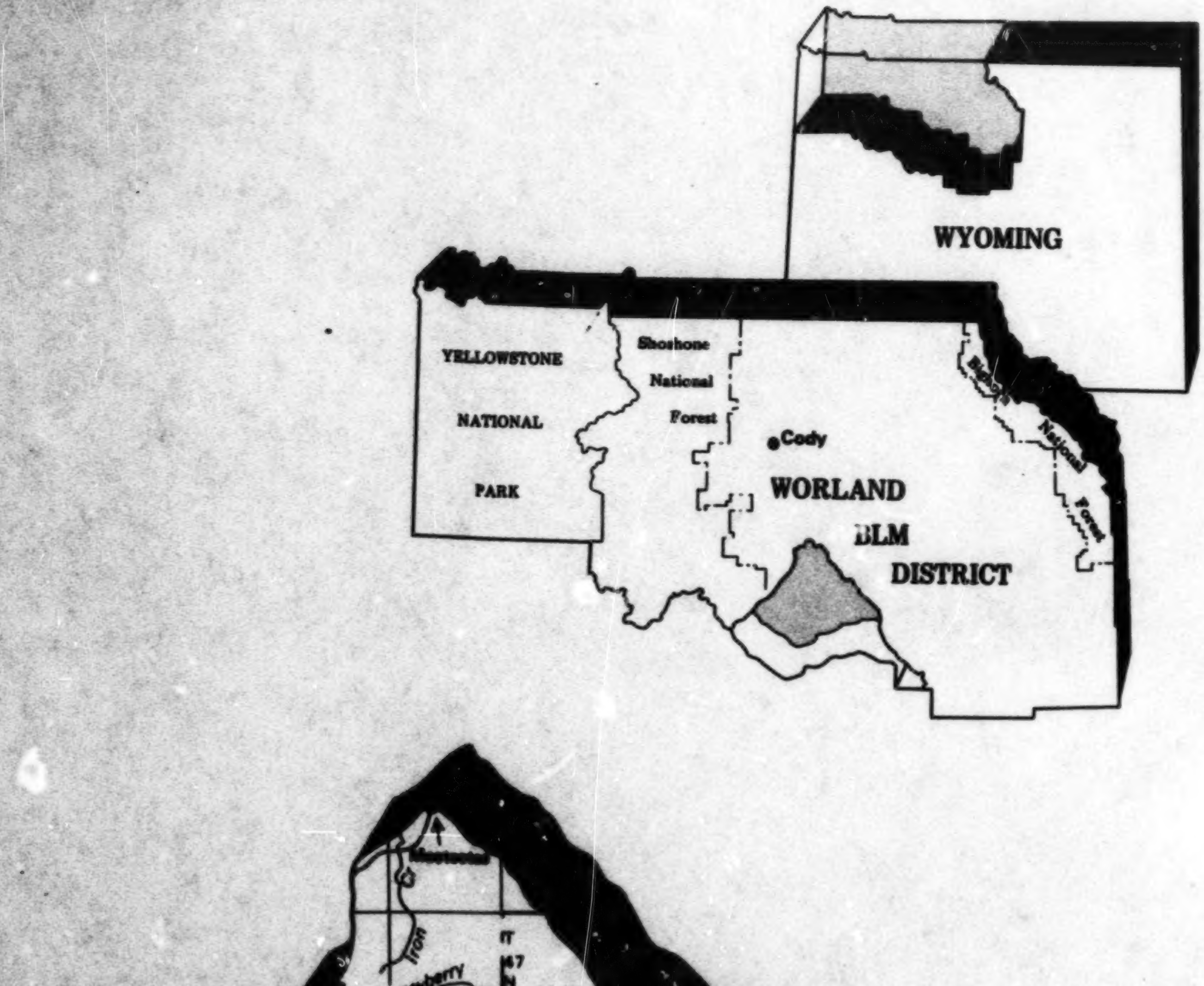


Absaroka Front Habitat Management Area
GENERAL LOCATION MAP
Absaroka Front Habitat Management Plan

Form 6780-1
(July 1981)
(formerly 6620-1)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

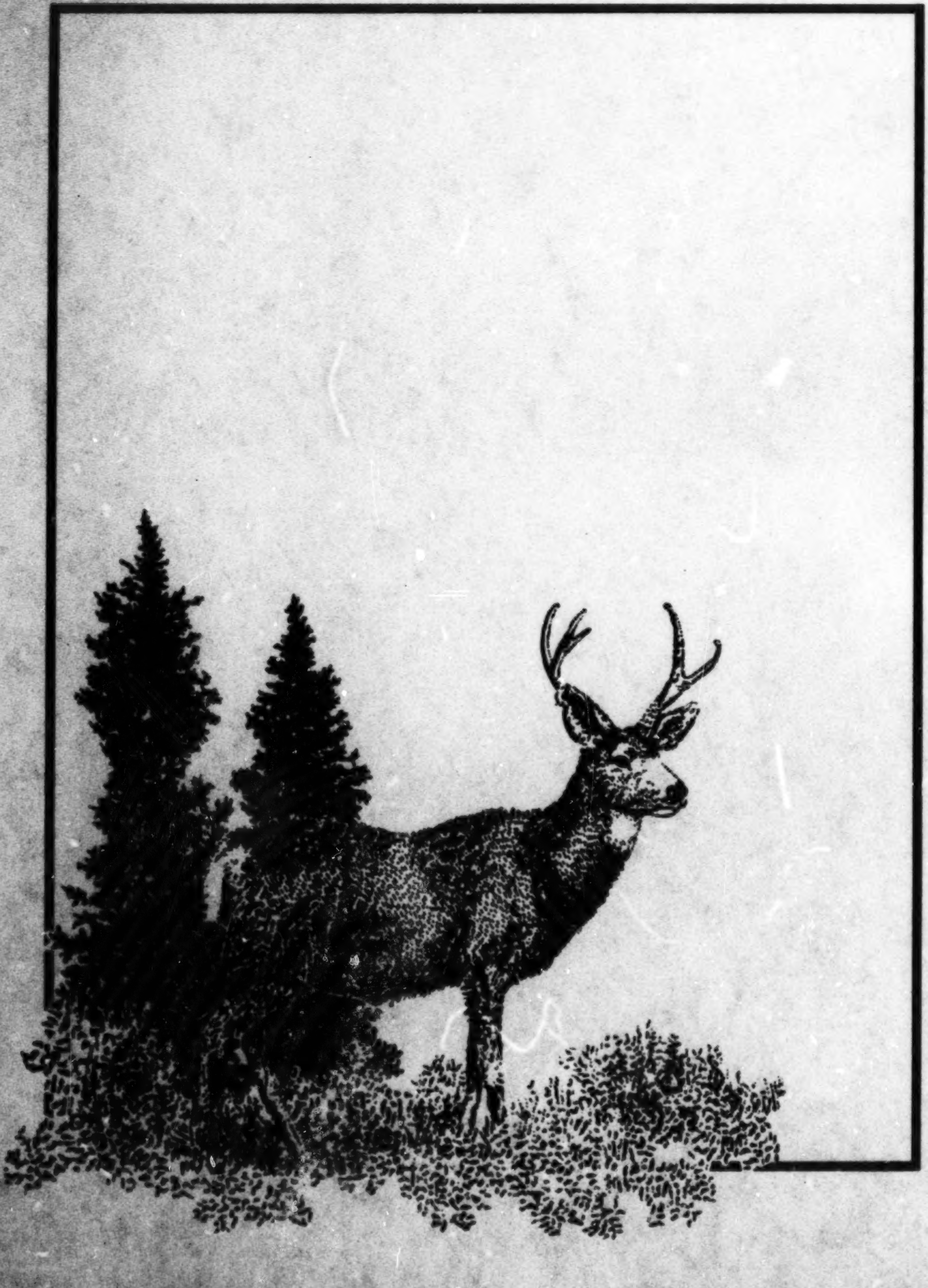
CHECKLIST FOR PREPARATION AND REVIEW OF HABITAT MANAGEMENT PLANS

State Wyoming
District Worland
Resource Area Grass Creek
HMP Name and Number Absaroka Front HMP WI-WHA-Z10
HMP Prepared by J. Denton

REVIEW CHECKLIST	SURNAME	DATE
1. Master Memorandum of Understanding, Sikes Act Agreement and/or Supplemental with State Agency.	▨	MOU 8/19/76 Suppl. 3/14/85
2. Preliminary meeting(s) with State Agency *(or other appropriate cooperators)* to jointly discuss HMP objectives.	▨	2/24/82, 4/30/83 2/23/84
3. Endangered Species Act Compliance completed by	Jeff Denton	10/20/83
4. Review by District/Resource Area Specialists		
Range Stinson, Parks 12/12/85	Blincow	10/30/85
Wild Horse and Burro	N/A	---
Hydrologist Wilson 12/15/85	Rosenlieb	10/30/85
Forestry Sharp 12/1/85	Christy	10/30/85
Fisheries/Botanist/Wildlife Biologist	Kroger	10/30/85
Lands Larsen 12/1/85	Rutledge	10/30/85
Minerals Seefeldt, 3/18/86; Wong, 11/6/85	Lonnie	11/6/85
Recreation Sharp 12/1/85	Smith	10/30/85
Wilderness/ACEC 12/1/85	Smith	10/30/85
Cultural	Douthit	10/30/85
Visual Sharp 12/1/85	Smith	10/22/85
Environmental Coordinator *(reviews EAs)*	Thompson	10/11/85
Support *(Chief of Operations/Fire Management)* Carriere, Kor	Carroll	9/13/85
Others		
5. Reviewed by Area Manager	Roseberry	10/19/85 and 2/11/86
6. Reviewed by Chief of Resource Management	Hollis	10/30/85
7. Draft HMP and EA reviewed by State Agency authorized officer *or other cooperators)*. Killough, Pachecek, King, Lawson, Lawrence, Marker		10/22/85
8. Final review *(if appropriate)* by State Director		
9. Reviewed and approved by District Manager	Conard	4/2/86
10. Approved by State Agency authorized officer	Morris	5/7/86

Remarks

Introduction



INTRODUCTION

REASONS FOR PREPARATION

The Absaroka Front Habitat Management Plan (HMP) was prepared to provide a comprehensive, systematic mechanism to maintain and improve fish and wildlife habitats on specific lands administered by the Shoshone National Forest (SNF) and Worland District, Bureau of Land Management. Habitats, wildlife populations and watersheds are continuing to deteriorate in the HMP area due to human intrusions and competition for resources. Resource conflicts in the 518,000 acre HMP area include grazing of 20,000 head of livestock, annual timber harvests, energy exploration and 20 Known Geologic Structures (KGS's) supporting producing oil fields, extensive proliferation of access roads, recreation, wilderness and intermingled land ownership patterns. The area supports a high diversity of wildlife habitats and significant populations of unique and economically important species, including two known and three potential occurring threatened and endangered species, seven big game species, eight upland game species and three trout species. Recent rapid acceleration of oil and gas exploration activity (similar to activity in the overthrust belt) and proliferation of access roads into previously roadless areas are impacting fragile watersheds and previously undisturbed crucial seasonal habitats in the Upper Owl Creek drainages. Without comprehensive management significant deterioration of watershed conditions and loss of habitats and wildlife resources (including Washakie Wilderness wildlife depending on non-wilderness crucial seasonal ranges) will continue at an accelerated rate. Wildlife populations are currently below objective levels and will probably further decline unless managed within a coordinated resource plan such as an HMP.

The diversity of landform and habitat types in the HMP area provides a yearlong biological unit encompassing seasonal and yearlong habitats for the majority of migratory big game species. This diversity offers a wide range of opportunities for wildlife habitat improvement projects. Significant opportunities also exist for reducing conflicts between wildlife and other land uses and obtaining baseline data necessary for comprehensive management of the HMP area.

Proposals in the HMP give primary emphasis to resource management on an ecosystem basis. This means that all proposed management practices will be designed to ensure the maintenance of a natural or desired diversity and abundance of plants, animals, and habitats as well as improvement of watershed conditions upon which they all depend. Ecosystem management will provide for improving unacceptable habitat and watershed conditions and maintaining those in satisfactory conditions as a means of perpetuating or increasing fish and wildlife numbers.

This HMP will qualify as a Sikes Act agreement whereby funding can be sought for cooperative projects with WG&FD. It also provides a forum whereby BLM and SNF land planning efforts and decisions can be coordinated across administrative boundaries and with other agencies and entities. Interagency coordination and commitment has been a recognized need and has been addressed in agency's planning documents, but no comprehensive interagency effort was ever initiated. Land management entities involved in this comprehensive effort are BLM, SNF, WG&FD, Wind River Indian Reservation (WRIR), Soil Conservation Service (SCS), State Land Board and private landowners. A mechanism for analysis of wildlife data and preparation of coordinated responses to other land use proposals is provided for herein. This will allow various agency personnel to better respond from the ecosystem standpoint to achieve mutual goals and address joint interests in wildlife habitat.

AUTHORITY/RELEVANT CONSTRAINTS

Broad authority for development of this HMP exists in the form of laws, strategic plans, executive orders and BLM policy. Applicable federal laws are numerous, but the most supportive include the Federal Land Policy and Management Act, Sikes Act, Executive Order 11990 for protection of wetlands, Classification and Multiple Use Act of 1981, National Forest Planning Act of 1976, National Environmental Policy Act of 1969, Endangered Species Act of 1973, Public Rangelands Improvement Act of 1978 and the Clean Water Act of 1977.

This HMP was prepared within all known constraints resulting from laws, Department of the Interior and BLM policy, other program requirements and Grass Creek Resource Area (GCRA) Management Framework Plan (MFP) multiple use decisions. Wilderness, archeology, recreation, range, minerals and watershed program constraints are discussed in a subsequent section on coordination and also in the Environmental Assessment Record (Appendix A). This HMP also was prepared within all known constraints resulting from laws, United Stated Department of Agriculture (USDA) and United Stated Forest Service (USFS) policy, other program requirements, and Shoshone Forest Resource Planning decisions.

Multiple use decisions from the Grass Creek MFP dealing with wildlife habitat formed the specific basis for the BLM portion of the HMP. A synopsis of MFP fish and wildlife objectives and multiple use management and decisions applicable to this HMP are listed in Appendix B. The Strategic Plan of WG&FD also contains numerous references that support efforts proposed in this HMP. Applicable Department objectives, goals and recommendations for meeting Strategic Plan Goals are included in Appendix C.

SIKES ACT PROVISIONS

This HMP was prepared and is to be implemented under the auspices of the Sikes Act (P.L. 93-542). Its preparation meets criteria of the August 1976 Memorandum of Understanding (MOU) between WG&FD and BLM; the State agreement between Region II and Region IV of the U.S. Forest Service (USFS) and Wyoming BLM dated November 1, 1974; the MOU and Resource Planning Agreement between BLM, SCS and USFS dated January 21, 1975 and the Master MOU between WG&FD and USFS dated February 9, 1972. The supplemental MOU between USFS, BLM and WG&FD specific to this HMP is found in Appendix D.

The Forest Service's Comprehensive Wildlife Management plan for National Forest System Lands in Wyoming (1980), which is also a broad scale Sikes Act agreement, applies directly to this HMP effort. On-going forest planning efforts and subsequent allocation decisions also apply.

Ecosystem Description

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ECOSYSTEM DESCRIPTION

ECOLOGICAL SETTING

The HMP area lies in the southwestern portion of the Big Horn Basin of Wyoming and can be considered a peripheral portion of the Greater Yellowstone Ecosystem. Habitats vary from cold desert grasslands and shrublands on the basin floor to an extensive foothill area characterized by mixed sagebrush-grasslands, limber pine woodlands and timbered north slopes. The foothills abruptly give way to the subalpine forests and grasslands and finally alpine tundra types of the Absaroka Mountains.

Human use and activity have greatly altered the physical, chemical and biological aspects of the one time natural ecosystem and its habitats. Human uses and intrusions in the HMP area include livestock grazing, fences, access roads, timber harvest, mineral developments and recreation. Wildlife, including those in the Washakie Wilderness, is dependent upon the intensively utilized lands for crucial portions of their life cycles such as winter ranges for big game animals. Wildlife populations are constrained by food, water, cover or space requirements in lowest supply which are influenced by natural or human events. The constraints upon wildlife populations are largely imposed by habitat factors in those areas of intensive human activity. To meet objectives of this HMP, the comprehensive management of man's activity to minimize human/wildlife conflicts is paramount.

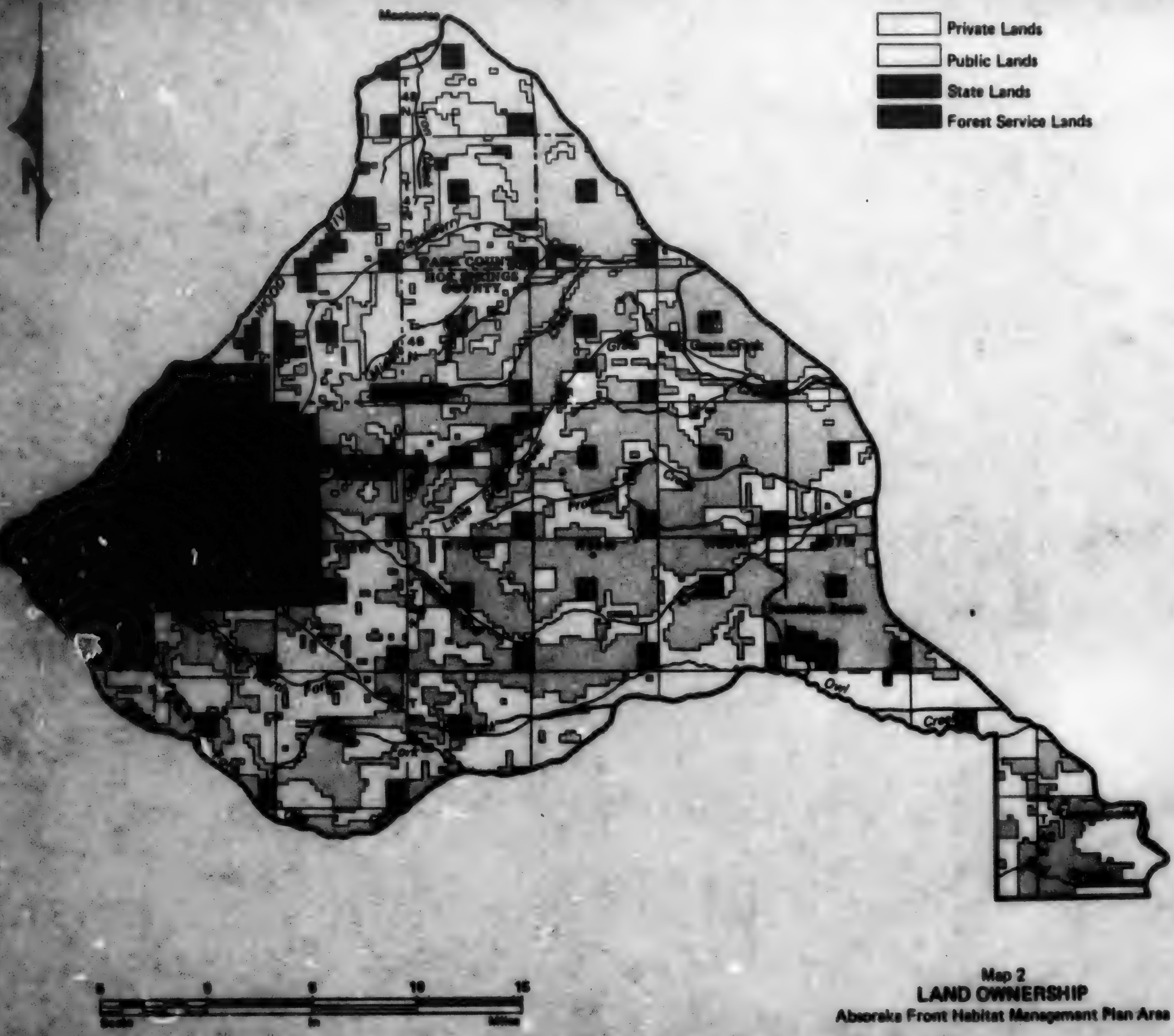
LAND STATUS AND ADMINISTRATION

Table 1 and Map 2 display land status of the HMP area by major ownership categories. Land ownership in the HMP area have significantly influenced the functioning of the ecosystem by patterning the intensity and kinds of human land uses.

Table 1

Approximate Major Land Ownership Categories of the
Absaroka Front HMP Area

Extent/Ownership	Bureau of Land Management	Forest Service	State of Wyoming	Private	Total
Acres	240,000	66,000	43,000	169,000	518,000
Percentage	46%	13%	8%	33%	100%



Map 2
LAND OWNERSHIP
Absaroka Front Habitat Management Plan Area

HABITAT DESCRIPTION

Elevations within the HMP area vary from 4,400 feet to 5,700 feet along the eastern boundary to over 12,000 feet in the Absaroka Mountains in the west. Topography consists of extensive high ridge complexes alternating with drainage courses above the 5,500 foot elevation. Basins, benches and isolated steep ridge outcrops are prevalent below the 5,500 foot elevation. Geology of the HMP area is best described as a dissected plateau of Early Tertiary volcanic and volcaniclastic rocks in the Absaroka Mountains and folded Mesozoic sedimentary rocks composed mostly of sandstones and shale in the foothills and lower elevations. Slopes range from nearly level alluvial fans to over 100% in mountainous areas. Photos 1-6 depict the topographic and physiographic variation in the HMP area.

Precipitation varies from 8-10 inches at lower elevations to 15-20+ inches in the mountainous western portion. Precipitation occurs primarily as spring rains and accumulation of winter snow. From 4-6 inches of snow typically occur at lower elevations (4,400 feet to 5,500 feet) and accumulates to several feet at high elevations; however, snow depths vary with any given winter and specific site. Many high elevation areas experience little snow accumulation due to wind, storm patterns and topography.

Temperatures vary from -50°F to 100+°F. Low elevations experience greater temperature extremes, both summer and winter, than areas above 6,500 feet elevation. Prevailing winds are from the northwest with chinook winds and spring winds from the south and southwest.

Streams of the HMP area are tributaries to the Big Horn River. The SNF portion of the HMP area contains the headwaters of Owl Creek, Cottonwood Creek, Gooseberry Creek and the East and Middle Forks of Wood River. The middle reaches of the latter streams, the upper reach of Grass Creek, and numerous smaller perennial and intermittent streams occur on the BLM portion of the area. Water quality, in terms of sediment yield and total dissolved solids, is good in the upper and middle reaches of these streams, but generally deteriorates as the streams approach the eastern portion of the HMP area. Water quality rapidly deteriorates as these streams enter portions on watershed that are characterized by soils of high erodibility, streambank deterioration, and accelerated erosion from human developments and uses (oil fields and livestock grazing),

The soils of the Absaroka Front HMP Area are quite variable in general features as they relate to numerous bedrock types, topography and climate. They range from dry, alkaline and saline, sandy to clayey soils on broad, rolling lowland landscapes to moist, organic-rich, loamy and rocky soils on steep mountain slopes. Climate at higher elevations is much more conducive to soil formation than at lower elevations. Soil depths range from very deep to very shallow, generally decreasing with increases in slope. Floodplain and drainage soils are usually deep with stratified sandy and loamy textures. Foothill and mountain soils are mostly very shallow to moderately deep.

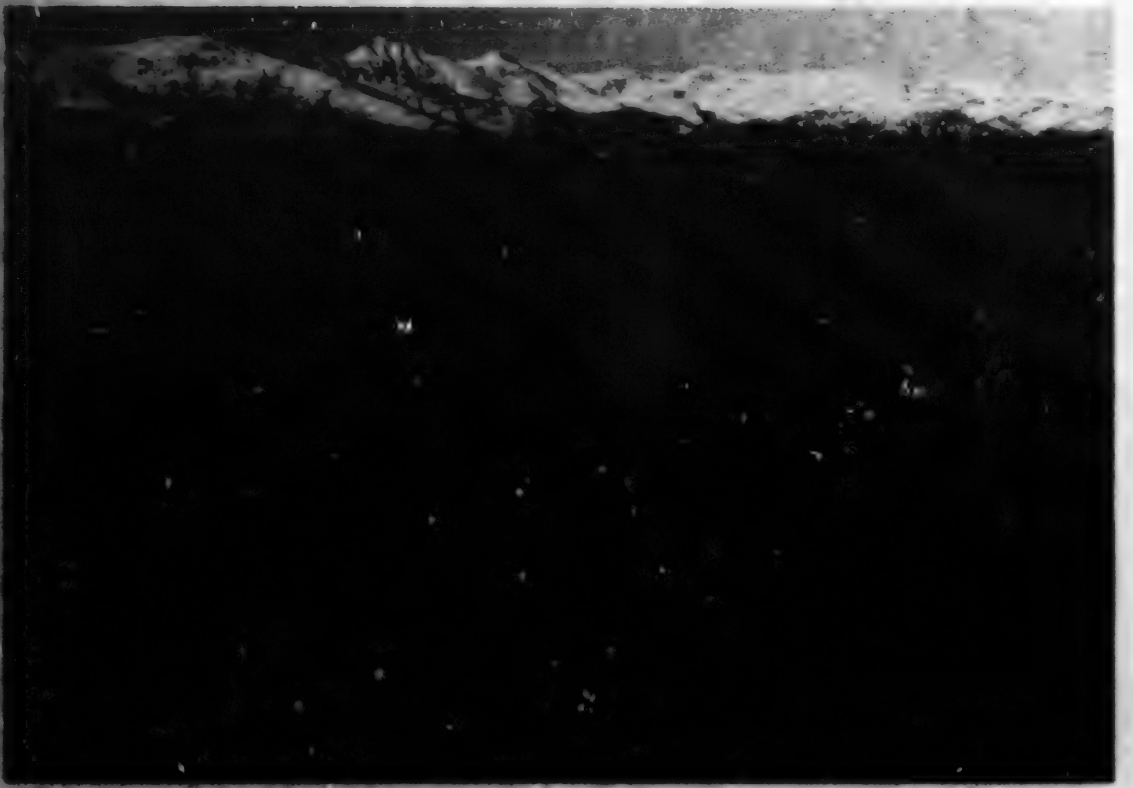


Photo 1 - Upper South Fork of Wood River - Bighorn Sheep yearlong and elk summer ranges

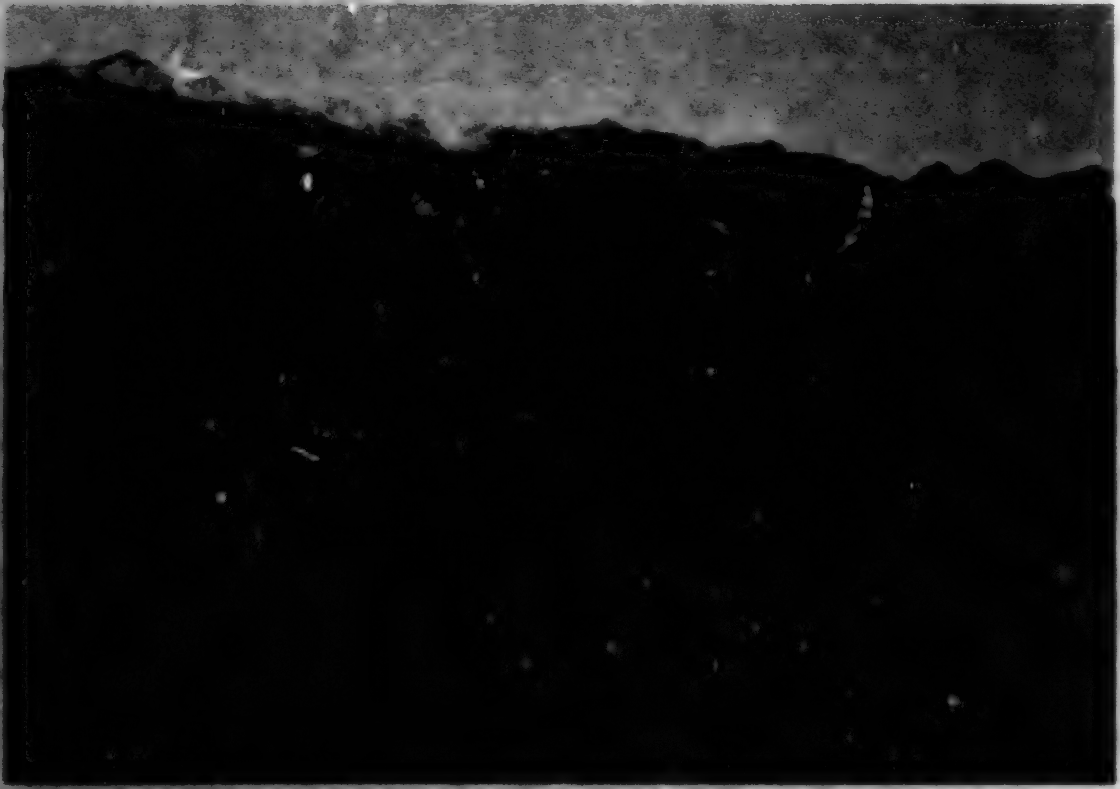


Photo 2 - South Fork of the North Fork Owl Creek yearlong elk and winter bighorn ranges.

Photo 3 - Noon Point - Aspen communities and yearlong moose and elk ranges, mule deer summer range.

Photo 4 - Lake Creek - Sug[illegible] Creek - Elk and mule deer winter rang[illegible]

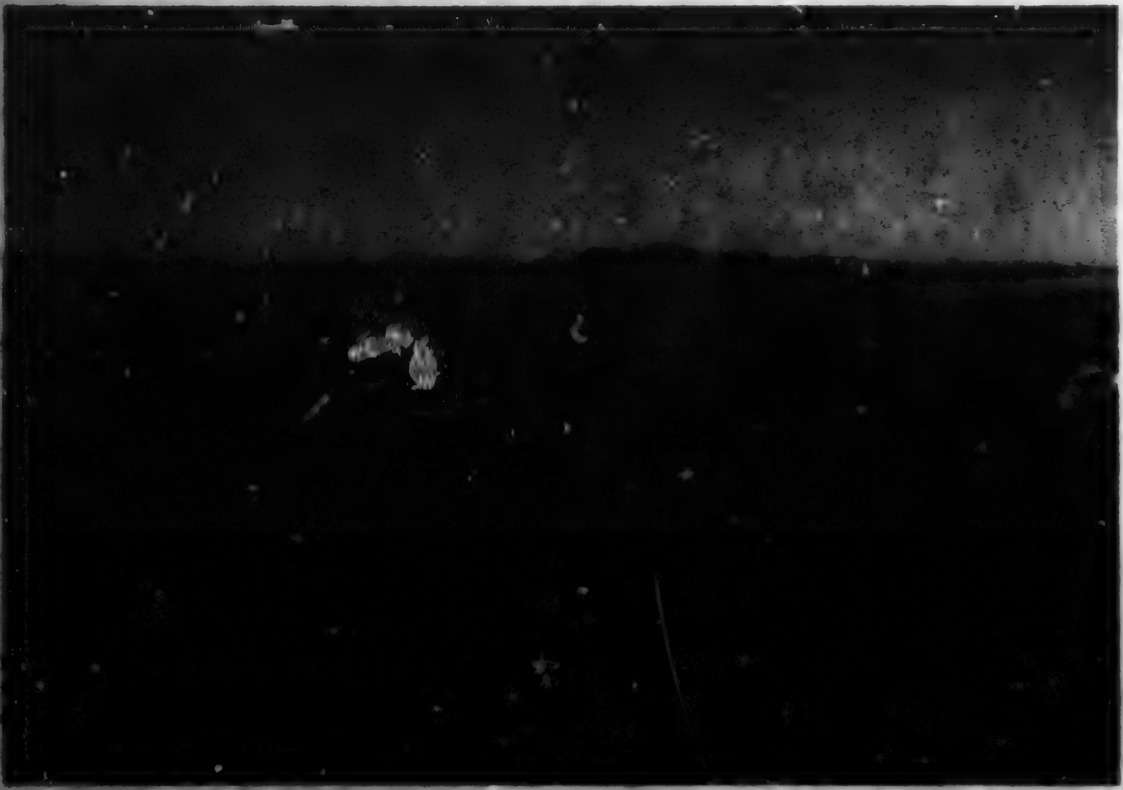


Photo 5 - Renner Draw - Soapy Dale Peak - Elk and deer winter ranges.

Photo 6 - Gooseberry Creek Breaks - Yearlong mule deer and elk winter habitat.

The principle soil features of texture, fertility, and erodibility vary generally with elevation. The cooler and moister loamy soils of higher elevations have high organic matter contents compared to the hot and dry, lower elevation, sandy and clayey soils. The mountain volcanic rocks weather to comparatively more fertile soils than do the alkaline and saline sedimentary rocks of lower elevations. Therefore, soil fertility, the potential for supporting natural and diverse vegetation is generally greatest in higher elevations. However, erodibility, is highest on mountain soils that are unprotected by vegetative cover. In terms of soil fragility, i.e., the degree of vulnerability to erosion versus soil erosion tolerance, the most fragile are the shallow, mountain soils that have shallow topsoil mantles over rocky substrata. These soils are common on steep ridges and slopes.

The HMP area has a wide diversity of vegetatively influenced habitats. On the BLM portion, twenty-four terrestrial and three aquatic/wetland standard habitat types occur. Refer to Appendix E for a description of standard habitat types, their soil associations, major plant species, precipitation zone, elevational regime and topographic relationships.

The alpine vegetation is unique because of shallow, fragile soils and relatively dry conditions. This type is found generally above 10,000 feet elevation zones characterized by very cold winters and cool summers, which afford a very short growing season. Abundant low-growing forbs, sedges, alpine grasses and a few low shrubs characterize this vegetative type.

Subalpine vegetation and montane grassland types include dry mountain grasslands and meadows dominated by Idaho fescue, green needlegrass, muttongrass and forbs associated with varying densities of sagebrush. These grassland types occur mostly on southerly exposures or are interspersed with fingers of mixed timber types. Timber species include Engelmann spruce, subalpine fir, Douglas fir, lodgepole pine and aspen in the more mesic sites; and limber pine, ponderosa pine and juniper woodlands on more xeric sites. Limited forest types are ponderosa pine and aspen. Long-term encroachment of juniper and limber pine into grassland/sagebrush sites is widespread. Conifer stands generally occur on northerly exposures and are stagnant with little or no understory structural diversity of shrubs, forbs or grasses. Silviculturally treated areas indicate understory improvement, but Rocky Mountain maple, elderberry, serviceberry and other montane shrubs are decadent and of low density. Heavy livestock use presently negates significant shrub improvement in timber harvest areas. Aspen stands are either decreasing in acreage or are generally decadent with only minor regeneration. Conifer invasion is common.

Lower elevation areas of the HMP area are characterized by semi-desert grassland and shrub communities. Distribution and density of various subspecies of big sagebrush and their forb/grass understory varies according to elevation, topography, precipitation zone, and historic land use patterns. Other shrub associations include silver sage, skunkbush, black sage and various rabbitbrushes.

Salt desert plant communities occur on highly saline uplands and are dominated by Gardner saltbush. Saline lowlands are characterized by high water tables and are dominated by greasewood with basin wild rye as a potential dominant. Aquatic/wetland types consist of perennial and intermittent stream channels and associated riparian vegetation in which cottonwood, various willows, silverberry and water birch occur depending on elevation and water quality. Seventy five percent of the perennial streams are declining in fish and wildlife habitat and channel stability. About 50 percent of the stable streams are already in poor condition. Also, numerous reservoirs, springs, seeps and small natural lakes and associated wetland and terrestrial vegetation occur in the HMP area. Riparian habitats and water sources become increasingly sparse and therefore limiting to various types of wildlife in the lower elevation and precipitation zones.

PRIORITY WILDLIFE SPECIES

Threatened and Endangered Species

Federally listed threatened and endangered species known to occur in the HMP area are the grizzly bear and bald eagle, respectively. Historically, peregrine falcons occupied the area and currently migrate through the HMP area. Bald eagles winter along the Wood and Greybull Rivers in the HMP area. No known nests occur in the HMP area; however, observations of mature bald eagles occur during spring and summer months. Whitetail prairie dog colonies in the area range from less than an acre to a thousand acres in size; the larger ones are potential habitat for the black-footed ferret. Black-footed ferrets probably exist in the area since one dead ferret was found in the HMP area near Meeteetse, a ferret population exists near Meeteetse, and large prairie dog towns occur within the HMP area.

Evidence exists that the Rocky Mountain wolf may occur in the area. Large wild canid sightings, tracks and howls have been reported (Lempke 1978) and continue to be documented. Data confirming wolf presence is currently lacking. Development of a national recovery plan for this animal is in progress.

The threatened grizzly bear has been observed on occasion (1984 latest observation) in the HMP area, which is also covered under the Grizzly Bear Recovery Plan. Adjacent SNF lands contain occupied habitat and are classified management situation 3, 4, and 5. Grizzly habitat is considered marginal on BLM administered lands and transient bear use is the current situation.

Big Game Species

Wild ungulates found within the HMP area include about 1000-1500 elk, 5000-7000 mule deer, 100-120 bighorn sheep, 40 moose, 150 whitetail deer, and 1100 antelope. Detailed distribution maps are contained in the Grass Creek Grazing Environmental Impact Statement (EIS) available at the Worland District Office.

Elk are the major migratory big game species using the area. The HMP area provides the yearlong array of seasonal habitat types by those elk which winter primarily on public lands of the GCRA. Wintering elk utilize habitats from 6,500 feet to 10,000 feet elevation but most crucial winter use areas are at the 6,500-9,000 foot elevation range. Grass communities on windblown ridgetops and south and east exposures, interspersed with timber pockets, are utilized as winter range (Photos 2-5). Foraging sites are limited to areas with light livestock grazing use, shallow snow depths, and availability of security cover. Localized distribution varies from year to year. Large groups of wintering animals often occur far from timber cover, where human disturbance is lacking and forage is available (Photo 5). The major forage species are Idaho fescue, muttongrass, king spike fescue, green needlegrass, bluebunch wheatgrass, big sagebrush, aspen, willow, silverberry and a variety of forbs. Calving habitats are associated with upper portions of winter ranges and lower summer range. Elk summer on both SNF and public lands and utilize timbered areas interspersed with montane grasslands and subalpine meadow types from 7,000-12,000 feet elevation (Photos 1-3). Breeding habitats are distributed from upper winter range areas to summer habitat areas.

Mule deer, both migratory and resident populations, occur throughout the HMP area. Mule deer recently have experienced a population decline to very low levels. The lower elevation resident populations are recovering satisfactorily, but high elevation populations are recovering much slower. Winter ranges are characterized as ridge complexes with mainly sagebrush, junipers and mixed conifer communities (Photo 6). Other forage shrubs include rabbitbrush, black sagebrush, and to a limited extent willow, silverberry, chokecherry, serviceberry, rose, skunkbush sumac and gooseberry in riparian areas. Cultivated crops, such as alfalfa, or native hay also receive considerable local use.

Whitetail deer are observed consistently along Owl Creek, Wood River, the Greybull River and sporadically in the middle portions of all major drainages, often in the company of mule deer. Harvest statistics indicate low but increasing populations.

Antelope occur throughout the HMP area where movement is not inhibited by barrier fences, timber, or topographic barriers. Antelope have been observed from alpine tundra to salt desert. Definite migratory patterns exist and many animals move to lower elevations or out of the HMP area in winter. Crucial winter ranges are in the 5,000-6,000 foot basins and benchlands where Wyoming big sagebrush communities dominate and snow depths are consistently shallow. Big sagebrush is the major winter forage plant. Populations have been generally stable with only localized shifts in numbers due to distributional changes. Restrictive fences are responsible for unused habitats in localized areas.

Shiras moose are present in all major drainages and are apparently increasing in the HMP area. Little is known of moose seasonal habitat selection and food habits in the area. Restoration of degraded riparian zones present significant potential for improving moose habitat. Timber harvest sites offer habitat for moose, however, current livestock use of these areas limit their value as habitat.

Bighorn sheep occupy the high elevation western portion of the HMP area. Wood River drainage sheep populations are relatively stable at the present time. Habitat in the upper Owl Creek area however has deteriorated and the bighorn sheep population and extent of distribution have decreased for the last 30-40 years from 200-250 to about 50. Restoration of habitat, especially winter ranges, will ensure survival and propagation of the bighorns in this portion of the HMP area. Bighorn sheep population status, seasonal ranges, habitat selection and food habits are largely unknown in the HMP area. Future survival of bighorns in the HMP area may be dependent upon gaining knowledge about their habitat requirements since energy development impacts are increasingly encroaching on the bighorn habitat in the HMP area.

Trophy Big Game

Black bear and mountain lion occur in the HMP area. Population status, habitat requirement and ecology are largely unknown. In recent years, livestock damage by lion has occurred in localized areas. Lions and bears have been primarily harvested through predator control efforts rather than sport hunting. Lion hunting is rapidly becoming popular in this area due to relatively few huntable populations statewide. Black bear are restricted to mixed timber and parkland areas or riparian zones while lions appear to be associated with the presence of mule deer and elk populations.

Furbearers and Predators

Bobcat, red fox, badger, and coyote occur throughout the HMP area. Ridges characterized by rock outcrops are preferred by bobcats; riparian/agricultural areas and adjacent benchlands produce most of the fox. Prey populations of cottontail rabbits, jack rabbits, prairie dogs, marmots, ground squirrels, and numerous other small mammals and birds provide an important food source for higher order consumers. Beaver, mink, and muskrat occur where suitable habitat exists. Stream habitat condition is generally poor except in South Fork Owl Creek Canyon (Photo 7) where steep canyon walls prevent livestock access or where streams are otherwise protected. Occurrence of river otter is not documented. Pine marten occurs in heavily forested habitats.

Game Birds

Upland game birds are represented by sage grouse, blue grouse, ruffed grouse, chukar partridge, Hungarian partridge, mourning dove, and historical evidence of willow ptarmigan as well. Habitats for these birds vary widely; however, the long-term succession of wet and dry meadow complexes to shrub domination and general poor riparian conditions offer significant opportunity to improve habitat. Wetland associated game birds are represented by a wide variety of ducks, geese, and shorebirds including snipe and sandhill crane.

Fisheries

Game fishes include cutthroat, brook, brown, rainbow trout species and mountain whitefish. Long-term degradation of stream habitats has left only limited reaches of various streams with quality game fisheries. Non-game fish and fish occupying desert streams contribute to the food chain in desert ecosystems and provide a good base for sport fishes where they occur. These include plains killifish, longnose dace, longnose sucker, mountain sucker, and flathead chub.

Species with Unique Habitat Requirements

Indicator species and species with unique habitat requirements are especially important as barometers of habitat quality and diversity. Unique requirements include cliffs, cavities in trees, caves, wetlands, and burrows. Burrowing owls depend upon prairie dog burrows for nest sites while bats, wrens, owls, prairie falcons and other raptors utilize cliff and cave habitats (Photo 8). Wetlands provide specialized habitats for the water ousel, wrens, yellow and red wing blackbirds, cranes, herons, certain sparrows, sandpipers, rails, bitterns, etc. Red eyed vireos which are an indicator of aspen habitat quality and goshawks which are indicators of timber habitat quality are present. Cavity nesting birds and animals also require special habitat features such as snags. Kingfishers, wood ducks, mergansers, various woodpeckers, chickadees, nuthatches, wrens, bluebirds, and flying squirrels are examples of wildlife requiring such features. Harlequin ducks which require swift running water occur but are uncommon.

Photo 7 - Owl Creek Canyon - Sport Fishery and elk, bighorn sheep and mule deer habitats.

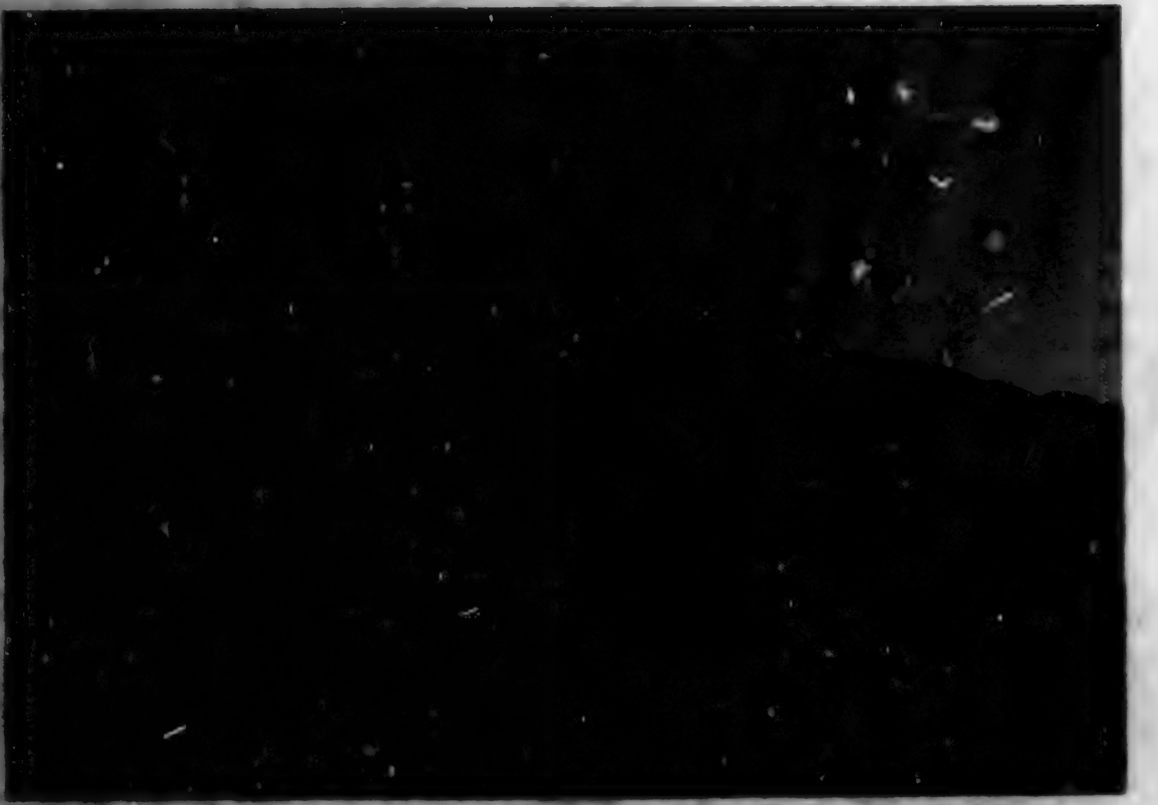


Photo 8 - Raptor nest substrates, chukar habitats.

Management Objectives

MANAGEMENT OBJECTIVES

GOAL

The ultimate purpose of this HMP is to improve, expand and maintain wildlife habitat, and meet WG&FD strategic plan (1978-83 and 1984-1989 and revisions, Appendix C) and threatened or endangered species national recovery plan goals. Restoring and maintaining wildlife habitat structural diversity, quality and quantity will be achieved through interdisciplinary coordination within BLM, and cooperation with WG&FD, SNF and other land management entities in the area. This plan is guided by BLM and SNF land use planning decisions and allocations. Goals and objectives may be reevaluated and adjusted as land use planning is completed or updated. Excerpts from the Endangered Species Recovery Plans for the black-footed ferret, peregrine falcon, grizzly bear, and bald eagle are presented in Appendix F.

Objectives of the plan will be met by implementation of specific planned actions which will be evaluated and monitored by determining impact and effectiveness. Table 2 (BLM Form 6780-2) presents a summary of objectives, planned actions and evaluations of HMP actions. Site specific proposals are listed in Appendix G. Planned actions of the SNF will be determined through planning efforts now being completed.

OBJECTIVES

On the basis of cooperating agency multiple use decisions, the following HMP objectives were developed:

1. Manage food, cover and water resources on public land and national forest lands to meet requirements for wildlife in accordance with WG&FD Strategic Plan, Land Use Planning Decisions (BLM and SNF) and national recovery plan goals (Threatened and Endangered Species). Strategic Plan goals have been established as reasonable numbers of wildlife for purposes of this plan on BLM lands and represent a measurable entity. See Appendix C for population levels by allotment of various priority species on public lands (BLM).

2. Eliminate and/or minimize effects of man-caused disruption and/or restriction to wildlife migration, movement or habitat use, as necessary, to meet WG&FD Strategic Plan, National Recovery Plan, and cooperating agency goals.

3. Restore priority species habitat to good to excellent condition.

4a. Manage 25 miles of trout fisheries, 33 miles of other perennial stream, 28 miles of intermittent stream habitat, and 15 reservoir sites on public land to maintain, improve and expand habitat to support fish and wildlife. Shoshone National Forest stream and wetland habitats to be managed will be determined through the Forest Plan. Specific objectives referenced from the Grass Creek Stream and Grass Creek Reservoir HMP areas are in Appendix H.

4b. Maintain all other wetlands (intermittent/ephemeral streams, springs, seeps, swamps, etc.) on public land in Class II or higher condition.

5. Manage watersheds to meet intermediate objectives for reducing soil loss to soil loss rates as per the Soil and Land use Technology (1979) report. Maintaining productive soils provides the medium which result in cover and forage production for the creation of fish and wildlife habitat and for decreasing sedimentation. Intermediate objectives will be quantifiable and monitored based on the specific needs of any treatment site or area. The intermediate watershed objectives are as follows:

   a. Protect, enhance and maintain soil and watershed resources on public land to improve natural site productivity as well as surface and groundwater quality, quantity, and timing.

   b. Prevent deterioration of watershed resources where technically and economically feasible and rehabilitate areas of accelerated sediment production and runoff where unacceptable resource conditions have developed.

   c. Prevent or minimize human caused threat to public health and safety, damage to natural site characteristics; and economic loss from flood, sedimentation, decreased water quality, accelerated runoff, and erosion due to man-caused actions.

PLANNED ACTIONS

The following planned actions to manage food, cover and water resources on BLM administered lands to meet WG&FD strategic plan and National Recovery Plan goals will be implemented.

A. To facilitate prioritization and implementation of planned actions in the HMP area, seven Habitat Analysis Blocks (HABs) have been identified (first map, Appendix G) based on wildlife species, sub-population use areas, and conflicts. Appendix I provides topographic quadrangle map indices to each HAB.

   1. Periodically redefine the food, cover and water needs of priority wildlife and incorporate these needs into all Bureau functions. The need for this periodic effort is to keep current with WG&FD Strategic Plan updates as better data become available or land use changes significantly alter habitat either cumulatively over time or through single actions. Current WG&FD Strategic Plan population goals by species are in Appendix C.

   2. Implement various vegetation manipulation projects to provide additional forage, vegetative diversity and cover for priority species, improved vegetative ground cover, increased water infiltration, and reduced surface runoff where desired to improve watershed condition. Manipulation methods will be selected based on site specific habitat objectives and soil compatibility.

a. Conduct prescribed burns on 150-500 acres of public lands per year, based on potential for initial burns and as needed for repeat cyclic burning. (Refer to Appendix G and Table 2.) Coordinated management plans for allotments could include additional acreage of private and state lands.

b. Reestablish vigor and distribution on 2000-4000 acres of aspen stands through various practices of girdling, cutting, burning and protecting treatment (Table 2). Extensive inventory and prioritization of aspen stands will be prerequisite to treatments.

c. Coordinate and provide specific guidelines for herbicide spray projects for brush control and improvement of watershed stability (Appendix J).

d. Conduct fall rotary brush beating on 440 acres of old age, decadent sagebrush on crucial sage grouse, antelope, and deer winter range to reestablish variable age class sagebrush population and improve watershed stability. (Appendix H and Table 2)

e. Create and restore wet meadow habitats and reduce peak water flows and sediment loading by investigating and implementing technical and economically feasible watershed improvement (low dike systems, trash catchers, etc.) for three or more high potential sites (Appendix H.)

f. Investigate the potential for establishment of various shrub, forb and grass species, and plant appropriate sites to improve diversity and production of forage plants, especially browse species. Establishment of additional species is particularly applicable in timber harvest sites, disturbed areas, spring developments, degraded riparian zones, and in areas of low productivity or limited diversity.

3. Improve the long-term integrity of crucial habitat areas by acquiring through negotiated or voluntary exchanges, gift, easement acquisition or purchase by State Land Board, BLM, SNF, US Fish and Wildlife Service, WG&FD, private organizations or individuals. Potential sites are identified in Gass Creek RA planning documents (MFP 3).

4. Develop and maintain water and associated riparian vegetation in areas occupied by priority wildlife species and as a means to expand wildlife into unoccupied areas. Develop springs, seeps, guzzlers, wells, catchments, melt pits, and reservoirs where water and riparian vegetation are limiting factors (Table 2). Development of new livestock waters on crucial elk winter ranges shall not be allowed until dependability of adjacent winter forage is assured. (Appendix H, K.)

5. Conduct research and inventories necessary to achieve long-term HMP goals.

   a. Refine range site guides (SCS) to incorporate wildlife needs.

   b. Develop accurate habitat/range suitability and selection relationships for priority wildlife species.

   c. Determine ecological requirements and feasibility of successful establishment of desirable plant species for wildlife forage and cover in the HMP area.

   d. Identify relationships between livestock and wildlife habitat selection, use and suitability.

   e. Determine the impacts of oil and gas exploration and development and forestry activities on wildlife habitat and habitat use, and develop guidelines and management practices for habitat maintenance and wildlife use.

   f. Identify the specifics of moose habitat selection and use and develop specific recommendations for enhancement of moose habitat.

   g. Investigate game bird, threatened and endangered species and big game ecology, movement, and habitat selection, and develop specific recommendations for habitat enhancement and maintenance.

B. Planned actions to eliminate and/or minimize effects of man-caused disruption and restriction to wildlife migration, movement or habitat use; elimination of habitats; damage to watersheds, and accelerated erosion, are as follows:

1. Define space requirements for priority species and incorporate these requirements into other activity functions within each Habitat Analysis Block.

2. Modify restrictive fences hindering movement of wildlife species and remove nonfunctional or hazardous fences (Appendix G, Table 2). All new fence construction will comply with standards allowing free movement of wildlife.

3. Road Use Restrictions (Prior rights will be given full consideration)

   a) Implement road density criteria (miles of road/unit area) based on cover value in habitats of species sensitive to human road use (Table 2 and Appendix G and L).

   b) Implement seasonal and yearlong closures of designated roads in specific crucial habitat areas and certain seasons of use involving species sensitive to human road use (Appendix G).

e) Implement an "authorized use only" restriction on designated roads in specific crucial habitats and certain seasons of use by species sensitive to human road use (Appendix G).

4. Human Use Restrictions

a. Control ORV use in crucial habitats and seasons of use (Table 2).

b. Exclude snowmobile use on crucial winter habitats, and develop a buffer area around such areas.

c. Identify conflict and potential conflict areas where human activities (current and new forms of uses) effect habitat use by priority species.

C. Planned actions to restore priority species habitat to good to excellent condition are as follows:

1. Define bighorn sheep habitat requirements and incorporate desired management practices into all activity functions, especially those of watershed, range management, and minerals management.

2. Conduct a bighorn sheep transplant feasibility study with SNF and WG&FD and implement supplemental transplants to fill suitable habitat areas until WG&FD Strategic Plan goals are met.

3. Cooperate with WG&FD to establish game bird or other species populations where suitable habitats are unoccupied.

D. Proposals to manage 86 miles of stream habitat and 15 reservoir sites are delineated in the Grass Creek Stream and Reservoir HMPs.

E. Planned actions to manage other wetlands are covered under implementation of various vegetation treatments or watershed treatments to restore or create wet meadow complexes in A. and B. above.

F. Planned actions for watershed improvement are incorporated into vegetation treatment planned actions and actions to eliminate or minimize human caused disturbance in A. and B. above.

Form 6780-2
(July 1981)
(formerly 6630-3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS *	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Manage public land habitats to meet forage, water, and cover requirements for priority species in accordance with WG&FD Strategic Plan and National Recovery Plan Goals.		1. As WG&FD Strategic Plans are updated and revised every 5 years, adjustments in habitat needs will be evaluated. See Appendix L for current Strategic Plan Goals. 2. Conduct vegetation manipulation and followup management protection to provide additional forage, vegetative diversity and cover for priority species and improve herbaceous cover to enhance watershed stability. 3. Conduct prescribed burns on 200-600 acres per year in sage, aspen and limber pine areas and repeat if necessary, in 30-40 years if cyclic treatment is needed.	1st cycle 1981	WG&FD lead effort and public involvement process BLM/WG&FD share in field monitoring efforts to document population levels and overuse/underuse of seasonal habitats.	On going annual effort

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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* Pending funding and manpower availability.

GPO 841-060

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UNITED STATES
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BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS		DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		1) Prescribed burning will be done for the following allotments to improve forage for livestock and habitat for wildlife:			1) Ecological condition and trend. 2) Actual use for wildlife and livestock by season. 3) Utilization of key forage species.	
		Allotment Number	Proposed Acres			
		0516	600	150-1983		
		0606	1640			
		0541	70			
		0681	100			
		0661-0680	480			
		0568	160			
		0609	240			
		0552	80			
		0515	240			
		0672-0619	60			
		0569	160			
		0575	80			
		2510	80			
		0600-0601	80			
		0627	180			
		0605	120			
		0633	160			
		0524	40			

INSTRUCTIONS

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2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

GPO 841-060

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(July [illegible])
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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		Allotment Number — Proposed Acres 0556 — 40 0634 — 160 0532 — 40 0558 — 40 0597 — 80 0607 — 40 0620 — 100 0560 — 40 2533 — 20 Total Acres — 5130			
		B. Restore and maintain 25-100 acres of aspen stand per year until 2,000-4,000 acres have been brought under management. 1) Inventory stands/clones for age, decadency, vigor and reproduction to prioritize treatments. Implement treatment scheduling and protection in the following allotments:		1. Sucker regeneration density. 2. Age and size (height class) density changes over time. 3. Utilization of key forage species - understory and overstory. 4. Actual use by livestock and wildlife by season. 5. Ecological condition and trend.	

INSTRUCTIONS

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2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		0606(6) 0515 0519 0516 0600 0552 0633 0672 0615 0661 0525 0597 0568 0601 0541 0609			
		C. Rotary Beating-Shrub Lands 1) The following allotments offer potential for brush beating in mosiac patterns to encourage edge effect and develop multiple age structure brush stands on crucial winter ranges. Allotments and proposed acreages are as follows: Allotment — Acreage 2510 — 40 0605 (Little Buffalo Basin & Grass Crk Basin) — 100 0607 — 100		1. Reestablishment of seeding and young sagebrush and multi-age stands density by age class. 2. Actual use by wildlife and livestock. 3. Ecological condition and trend. 4. Utilization by wildlife.	

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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(July [illegible])
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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		0540 40 0596 40 0621 80 0604 40 D. Inventory and identify sites for wet meadow development via practices such as water spreaders, trash catchers, check dams, etc. within 10 years. Implement a minimum of 3 watershed/channel stabilization projects within 10 years. Potential sites occur in allotments as follows: 0504 0513 0596 2510 0608 0533 0585 0654 Other potential sites may be identified pending further inventory.		1. Establishment of wet meadow complexes-how many years. 2. Actual use by wildlife and livestock. 3. Utilization by livestock and wildlife. 4. Ecological condition and trend. 5. Watershed stability, silt loading, soil water storage.	

INSTRUCTIONS

1. List specific HMP objectives as developed from HMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		E. Plant and protect vegetation in degraded riparian zones, seeps, new spring developments, timber harvest (see Forest Management Plan) sites and energy reclamation sites to benefit wildlife and watershed stabilization. Ten sites per year will be planted for ten years in the following allotments: 0633 0542 0634 0604 0607 2538 0516 0609 2539 0620 0525 0515 0606 0541 Also sites such as spring developments, harvest and other disturbed areas will be planted as they occur. Species will be selected for planting on a site-by-site basis.		1. Survival, escapement, reproduction, self-sustaining ability. 2. Ecological condition and trend. 3. Utilization of established plants.	

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		3. Acquire lands through negotiated or voluntary easement acquisition, purchase or gift by State Lands, BLM, USFS, WG&FD and private organizations or individuals, within crucial habitat blocks to improve longterm integrity of such habitats. Maintain public land ownership of identified high value wildlife habitat areas (Appendix H) or use these lands to block up equal value habitats in the same habitat analysis block. Allotments with potential for land tenure adjustments include: Allotment Number — Proposed Acres 0609 — 2,240 0542 — 1,280 0541 — 520			

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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Form 6780-3
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(formerly 6620-1)

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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		0560 440 0525 1,800 0597 1,920 0584 200 0575 160 0568 2,720 0569 50 0661 3,500 0680 2,400 0681 640 0516/0635 1,000 0552 240 0633 1,400 0606 160 0515 2,400 0600 640 0601 640 0599 640			
		4. Develop and maintain waters and associated riparian vegetation to meet needs of priority wildlife species and support their expansion into unoccupied habitats.			

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		4a. Develop 200 seeps and springs over 15 years.		1. Ecological condition and trend. 2. Actual use by wildlife and livestock. 3. Utilization of key forage species. 4. Water yield. 5. See monitoring for Grass Creek Stream and Reservoir HMPs.	
		4b. Develop 30 (10 within the first 10 years) guzzlers for chukar, Hungarian gray partridge and sage grouse in unoccupied habitats (Palo Verde Rims and unwatered areas).			
		4c. Develop wildlife waters associated with 15 existing wells (5 in first 10 years). See Appendix J for well listing and potential sites.			
		4d. Develop 3 catchments in cooperation with the range program in 10 years.			

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		4e. Develop 10 new reservoirs in cooperation with the range program in 10 years.			
		4f. Develop 3 high elevation snow drift melt pits in 10 years.			
		4g. Restore stream zone and improve reservoir habitat at identified sites (Grass Creek Resource Area Reservoir and Stream HMPs).			
		5. Implement research and inventory projects during the next 10 years to collect data needed to achieve long-term HMP goals.			
		5a. Classify aspen clones in 3 years.		1. Contract and budgetary monitoring. 2. Quality control of funded research. 3. Objectives of research monitoring to assure the proper end product.	
		5b. Develop habitat suitability and selection relationship guides for priority.			

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		wildlife species and threatened and endangered species. 5c. Evaluate site requirements for propagation of bitterbrush, curlleaf mountain mahogany, chokecherry, serviceberry, etc. 5d. Determine relationships between livestock and wildlife habitat selection, use and suitability. 5e. Develop guidelines for oil/gas and forestry practices which will minimize impacts to habitat quality and usability. 5f. Determine moose habitat selections and use in dry montane areas and develop habitat mangement recommendations.			

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		5g. Develop recommendations for other big game/game bird/T&E species habitat management through habitat selection, movement, ecology and food habits studies. 5h. Inventory and classify aspen stands for enhancement and maintenance treatments.			
II. Eliminate and/or minimize effects of man-caused disruption and/or restriction to wildlife migration, movement or habitat use, as necessary, to meet WG&FD Strategic Plan, National Recovery Plans, and cooperating agency goals.		1. Define space requirements for priority species and incorporate these requirements into other activity functions within each Habitat Analysis Block (HAB). See Appendix G. 2. Remove and/or modify 10 miles of hazard and barrier fences per year for 10 years and inventory and prioritize modification needs (65 miles have been identified).		Continue actual use monitoring and monitor shifts in habitat use from man induced changes (i.e., energy developments, changes in area of cover types, forage cover ratios, road density criteria, effective habitat versus habitat present but unused).	

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

Form 6780-2
(July 1981)
(formerly 6630-3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		Allotments with known fence barriers are: 0601 0596 0568 0575 0606 0605 0606/0633 0620/0637 0535 0594/0605 0545 3. Road Use Restrictons: (Existing rights will be given consideration.) A. Institute road density criteria based on miles per section and cover value guidelines to limit proliferation of roads in elk habitats (Appendix H). B. Seasonal closures to vehicle use: 1) Elk and bighorn sheep crucial winter and spring ranges and appropriate buffer areas will be closed from Dec.1, - May 1. 2) Elk and bighorn sheep parturition areas (May 1 - June 30).			

INSTRUCTIONS

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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		3) Migration routes will be closed from May 1 - June 30 and November 15 - December 15. C. Implement permanent and seasonal road closures, horseback and foot access only stipulations and roadway rehabilitation on crucial habitat areas. 1) Implement seasonal closures on migratory and high historical use habitats of high potential and recent low use in the following areas: Grass Creek-Enos Creek road systems on Sanford Draw, Roach Creek, Egbert Draw, Thompson Draw, Carmichael Draw, Hess Creek, Otto Draw, Enos Creek Timber Roads, Middle Creek Timber Roads. 2) Permanently close roads in crucial seasonal			

INSTRUCTIONS

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OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		migration, parturition, and breeding habitats in the following areas: a) Enos-Grass Creek Ridge Road from Aspen Creek to Egbert Draw. b) South Fork of Owl Creek from Vass Cabin to Forest Boundary. c) All new logging and energy related roads when specific timber harvest action or energy action ceases. 3) Allow authorized access only: a) New energy and logging roads during active period authorized under seasonal restrictions of specific action.			

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OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		4. Human use restriction on crucial and special habitats. Identify areas where off-road vehicle use has been abusive and close; rehab., seed and waterbar the sites if watershed has gone beyond natural ability to repair.		1. Actual use by wildlife. 2. Human use by season, type of activity, distribution and density.	
		A. Restrict snowmobile use on all crucial winter areas and established buffer zones.		1. Actual use by wildlife. 2. Human use distribution by season and type.	
		B. Restrict cross-country skiing on crucial elk winter ranges, moose ranges.			
		C. Restrict ORV use on crucial seasonal (winter, birthing, breeding) habitats during crucial seasons. Enos and Grass Creek drainages are an immediate problem area.		1. Actual use by wildlife. 2. Human use distribution by season, type, density. 3. Wildlife mortality vs. habitat potential.	

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Form 6780-2
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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		D. Limit aerial predator control activities to areas outside of crucial elk winter ranges from November 1 thru April 30, except where legitimate damage claims are present or in hot pursuit situations. Allow no aircraft predatory control within 2 miles of game concentrations.			
		E. As new forms of recreation or land uses emerge, restrict their activity where it conflicts with the maintenance of WG&FD Strategic Plan goals to minimize impacts		1. Actual use by wildlife 2. Human use by season, type, density and distribution.	
III. Restore priority species habitat to good/excellent condition as follows:		1. Define bighorn sheep habitat requirements and ensure they are met and maintained through coordination of all programs, especially watershed, range and energy.		1. Actual use by wildlife, livestock. 2. Utilization of forage by all species by season. 3. Human use by season, type, density, and distribution 4. Feasibility study for supplemental.	

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(July 19[illegible])
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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
		2. Conduct cooperative feasibility study with USFS, WG&FD, BLM and implement habitat maintenance for supplemental transplant to restore diversity of native priority species that are capable of maintaining their viability.		1. Feasibility study report.	
		3. Cooperate with WG&FD in areas where habitat exists and viable populations of game birds or other species do not occur to establish viable opoulations. Coordination with range management to improve and/or maintain habitats is essential.			
		4. Cooperate with USFS for coordinated range/wildlife habitat management in the Owl Creek, Cottonwood Creek and Gooseberry Creek drainages.			

INSTRUCTIONS

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HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
IV. Manage 58 miles of public land perennial stream habitat to attain and maintain Class I streambank condition and maintain water temperatures, cover, spawning/incubation sites, and food production parameters to support viable sportfish and non-game fisheries where applicable.		1. See Grass Creek Stream HMP (Appendix I).		1. Actual use by wildlife and livestock. 2. Utilization by wildlife and livestock. 3. Stream habitat condition and trend. 4. Ecological condition and trend. 5. Game and non-game fish productivity.	
A. Manage 15 reservoirs in the Absaroka Front HMP area to the extent possible to provide nesting and rearing habitat for waterfowl and fisheries by maintaining Class I shorelines, proper depths, oxygen, turbidity, food base and spawning sites.		1. Refer to Grass Creek Reservoir HMP for specifics (Appendix I).		1. Actual use by wildlife and livestock. 2. Ecological condition and trend. 3. Fish and waterfowl production and population estimates.	

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B. Maintain all other wetlands (intermittent/ephemeral stream, springs, seeps, swamps, etc.) on public land in Class II or higher condition.		1. Refer to Grass Creek Stream HMP for specifics and also Objective I of this section.		1. Actual use by livestock and wildlife. 2. Ecological condition and trend.	
V. Manage watersheds to meet the following intermediate watershed objectives to maintain productive soils on sites within soil loss rates as per the Soil and Land Use Technology (1979) report. Maintaining productive soils provides the medium which result in the cover and forage production for the creation of fish and wildlife habitat and for decreased sedimentation. The intermediate watershed objectives are as follows: 1. Protect, enhance and maintain soil and watershed resources on public lands		1. Refer to vegetative manipulation under Objective I, Planned Actions 2.A-D and Planned Actions 4.A-G.			

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OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
to improve natural site productivity as well as surface and ground water quality, quantity, and timing. 2. Prevent deterioration of watershed resources where technically and economically feasible, and rehabilitated areas of accelerated erosion and runoff where unacceptable resource conditions have resulted. 3. Prevent or minimize threat to public health and safety, damage to natural site characteristics, or economic loss from flood, sedimentation, decreased water quality, or accelerated runoff and erosion.					

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Coordination

COORDINATION WITH OTHER BLM PROGRAMS, AGENCIES AND ORGANIZATIONS

Coordination of all activities within the HMP area is imperative if wildlife goals and objectives are to be met. Without coordination among WG&FD, BLM, HMP program personnel, efforts expended to improve management of fish and wildlife habitat within the HMP area can be expected to fail. Lead agencies must also coordinate with other agencies, groups and individuals to ensure their combined activities are considered within the overall HMP proposals. Positive cooperation, support, and attitude will provide for accomplishment of HMP objectives in a comprehensive, coordinated manner.

BLM PROGRAMS

Forestry

BLM forest management stresses development and maintenance of vigorous forest communities. To achieve this goal, harvest priorities are given to damaged or high risk timber where insects, disease and over maturity limit forest vigor and yield. (Photo 11)

Currently a timber management plan for the Grass Creek Resource Area is complete and a District 5-year Sale Plan guides the short term sale program. Wildlife staff personnel will review specific sales the year the sale enters the five year plan, provide input and monitor each specific sale area relative to other resource actions in adjacent areas until the sale is complete. This schedule allows timely adjustment in sale programming if other major actions begin impacting habitat in the same HAD.

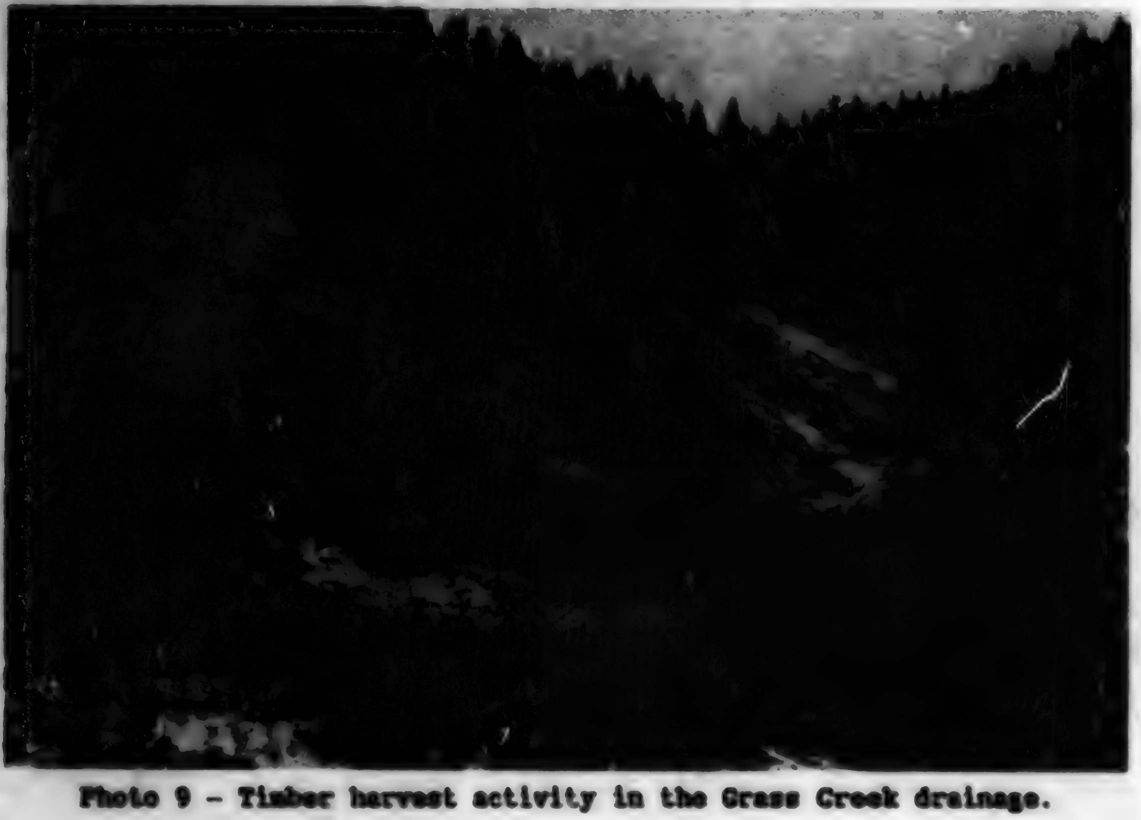


Photo 9 - Timber harvest activity in the Grass Creek drainage.

Forest management practices can enhance or deteriorate wildlife cover, forage, space, and reproductive success depending on methods applied. Applicable practice and mitigations related to timber harvest/wildlife management can be found in Grass Creek Resource Area Management Framework Plan, Forestry Plan, and the BLM Forestry Manual. The following wildlife concerns will be addressed in development of all timber management actions (see Appendix N for details):

1. Snags will be managed to meet and maintain the needs of specific wildlife species utilizing those timber types.

2. Maintain optimum cover/forage rates and timber age class distributions depending on priority species and effective habitat in each HAB.

3. Apply seasonal timber harvest activity restrictions based on priority species habitat impacts.

4. Manage slash to minimize conflicts and enhance habitat diversity.

5. Minimize wildlife habitat conflicts through application of road density standards, seasonal closures, total closures, and authorized use only restrictions during and after timber harvest activities. This applies to all road initiating activities.

6. Practical restrictions including method, size, shape, and distribution of cuts, and establishment of buffers will be used to optimize wildlife use and maintain interim habitat in HABs.

7. Protect riparian areas.

8. Implement protection of rehabilitation and reforestation sites from livestock use, and optimize interim timber harvest wildlife benefits.

9. Protect special habitat features such as raptor nests, elk wallows, and parturition areas.

10. Monitor effectiveness of actions and cumulative habitat change in order to apply alternative forest management actions.

Range Management

Coordination with and assistance from range staff personnel and livestock permittees are mandatory in order to achieve HMP objectives. All public lands considered in this HMP are contained within grazing allotments and range staff personnel will play a significant role in coordinating HMP activities between range users and HMP project personnel. Specific HMP proposals will be incorporated into Allotment Management Plans, where applicable, in order to obtain total integration into the range program. Considerable effort has been expended to consult and coordinate this HMP with range users and advisory boards. Please refer to the section on public participation for details. Users will be constantly involved in all HMP implementation actions involving their use areas.

An objective of the range management program is to categorize allotments into one of three resource management categories (Appendix M-1 and Map 3) according to reasonable resource, economic and management criteria. The categorization process complies with the selective management strategy of the BLM's final Grazing Management Policy (WO I.M. 82-292; March 5, 1982). The intensity of grazing management is based on the level needed to meet the following objectives:

1. Maintenance ("M") Category - To maintain or improve the existing resource conditions and productivity. There are 76,772 public land acres in this category in the HMP area.

2. Improvement ("I") Category - To improve existing resource conditions and productivity to enhance multiple use. There are 159,060 acres of public land in this category in the HMP area.

3. Custodial ("C") Category - To manage lands in a custodial manner that will prevent deterioration of current resource conditions. There are 12,382 public land acres in this category in the HMP area.

There are seven Allotment Management Plans (AMPs) in existence in the HMP area. None of these are fully functional or adequate at this time. Schedules for revision of existing AMPs and development of new AMPs subsequent to grazing decisions for I and C category allotments on public land are listed in Appendix M-2.

Significant benefits will accrue to the range management program and livestock grazing permittees from HMP project implementation. Prescribed burning will open up timber and shrubland areas and provide greater herbaceous foraging areas. Water development will aid livestock utilization and distribution in some cases.

Forage, cover, water and space all are competitive commodities between wildlife and livestock. Livestock utilization, distribution, stocking rates, season of use, salting practices and water distribution all significantly affect condition, distribution, occurrence, structure and availability of plant matter and plant communities. Livestock grazing is currently the most significant influence on wildlife habitats in the HMP area. The following wildlife concerns will be considered in development and implementation of grazing management treatments and practices:

1. Fence standards, types, placement, removal and/or modification.

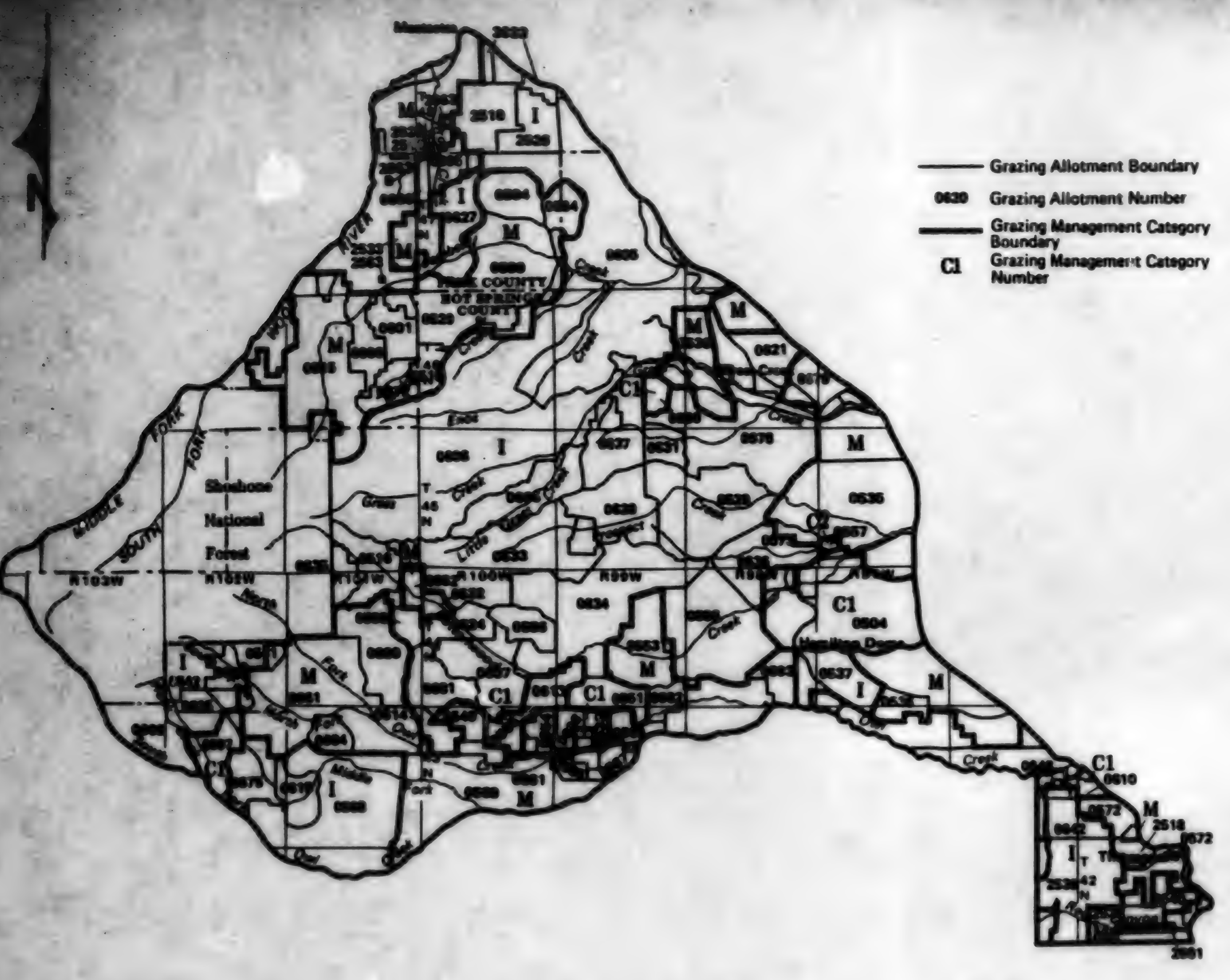
2. Riparian/wetlands protection (Photo 12).

3. Optimization of habitat condition and forage availability.

4. Proper actual use and distribution of livestock.

5. Proper season of use and class of livestock.

6. Placement, modification and protection of watering sites.



Map 3

CATEGORIZATION OF GRAZING ALLOTMENTS IN M,I,C CATEGORIES

Absoraka Front Habitat Management Plan Area

7. Proper salting strategies.

8. Proper vegetation conversion and rehabilitation projects.

9. Monitoring of all projects and management actions.

10. Implementing rest pastures each year in livestock grazing systems in elk and bighorn sheep habitats, setting forage utilization levels in crucial habitats.

Appendices M-3 and J offer a checklist and guidelines for application of various range related actions relative to wildlife habitat.

Minerals Program

Leasable, locatable and salable mineral resources occur throughout the HMP area. Grass Creek Resource Area URA overlays indicate type, location and potential for development under current technology and economic conditions. Appendix N presents a checklist and guidelines to be addressed in mineral/wildlife habitat conflicts.

1. Leasables

Existing energy exploration and development activities have significantly impacted wildlife in the HMP area. The HMP area has 18 known oil and gas fields and contributes significantly to oil and gas production in Wyoming. The HMP area is presently considered a high potential oil and gas reserve. Twenty known geologic structures (KGS) occur in the HMP area. The entire HMP area excluding Wilderness Area is currently under lease. Intensive exploration, development and related actions are accelerating in number at present and are expected to continue. A major impact of energy development on wildlife is caused by the activity associated with numerous new high standard roads and increased human activity in formerly low human use areas.

The Meeteetse and Grass Creek coal fields occur in the HMP area. The Grass Creek strip mine is the only operating mine at the present time. The coal is good quality and has low sulphur content (9,285-10,128 BTU/lb). Expansion of this operation is expected. Proven reserves of 10 million tons and possibly 18.6 million tons of recoverable coal occur in this field. High standard haul roads are again a factor affecting use of habitat by wildlife.

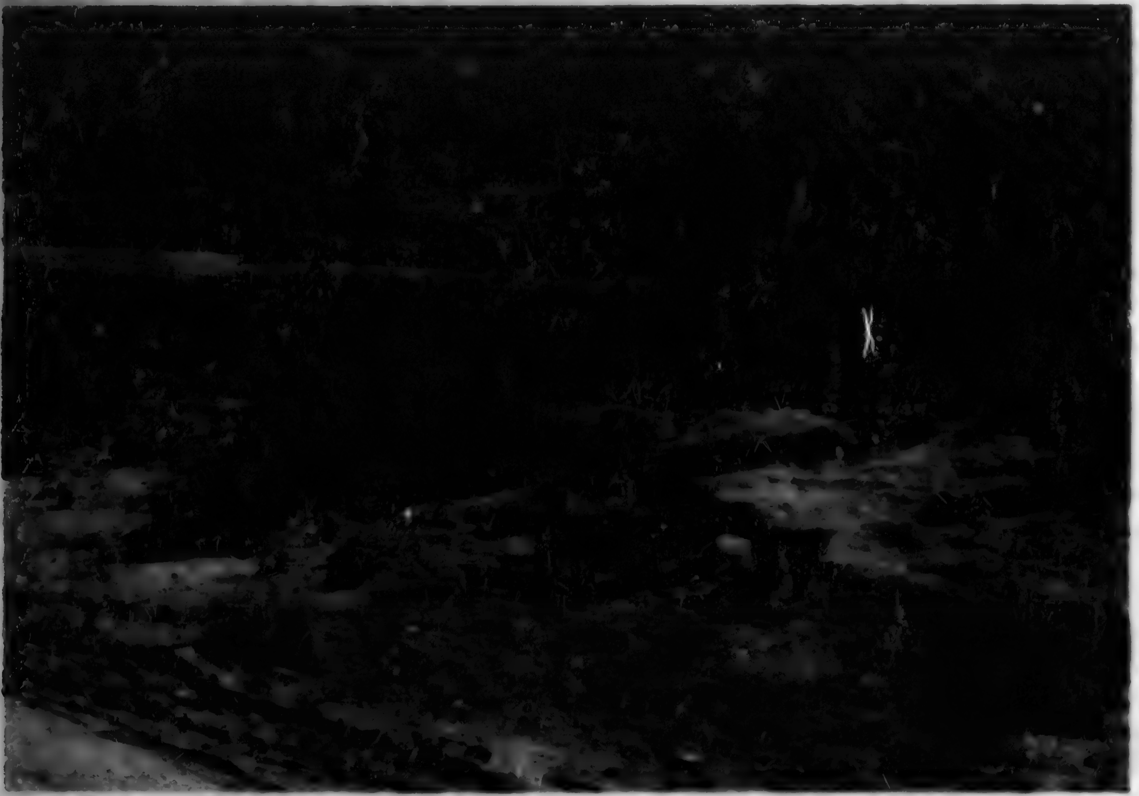


Photo 10 - Livestock grazing in degraded riparian zones.

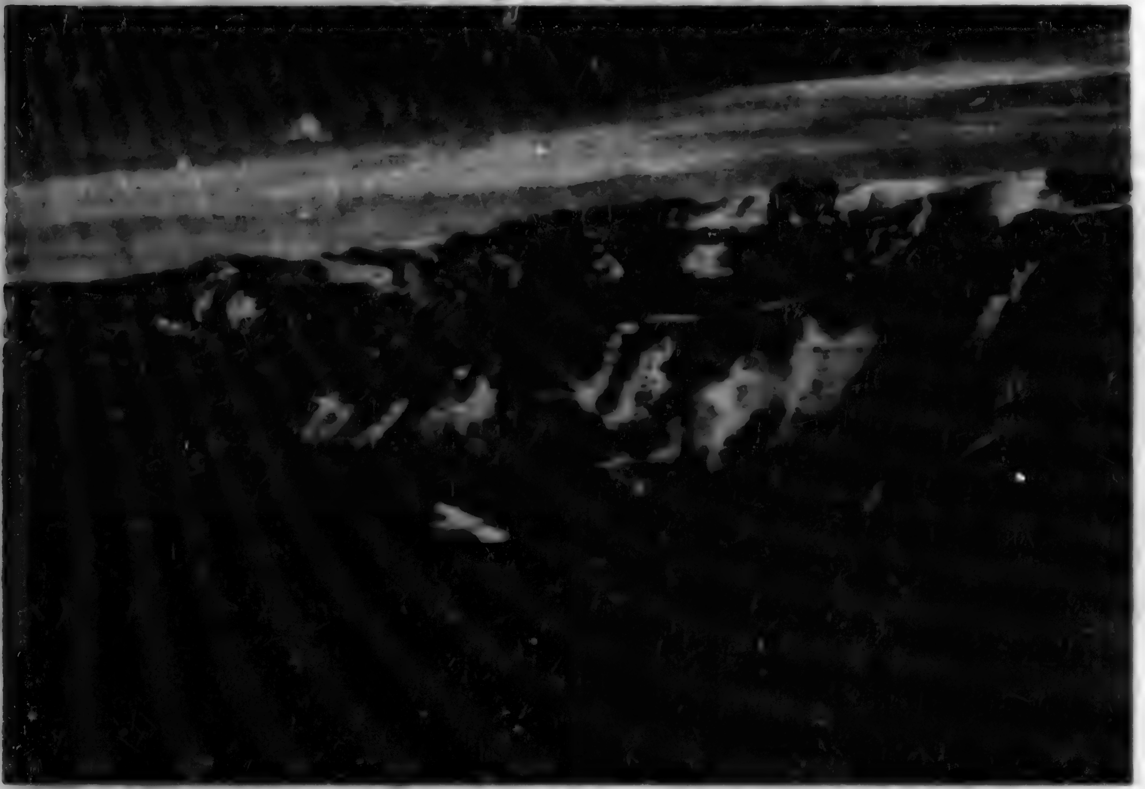


Photo 11 - Oil and gas exploration and development in sensitive high elevation habitat.

Geothermal resources exist but their significance for development are unknown.

The Bureau of Land Management has the authority to minimize or prevent adverse impacts. Protective stipulations related to leasable oil and gas mineral activities are identified in the Grass Creek Oil and Gas EA and overlays as well as, standard conditions for geophysical exploration are applied to these activities. Oil and gas exploration and development are subject to BLM regulations through the issuance of permits, leases, easements, and rights-of-way. Seasonal restrictions, facility placement, recovery techniques, access restrictions, and surface rehabilitation are, to varying degrees, subject to BLM regulations.

2. Locatables

A. Bentonite - There are approximately 6,500 acres of bentonite in the RMP area. One active mining site occurs in the RMP area and virtually all potentially mineable deposits have been claimed.

   Development of this mineral has been the major activity in the northern segment of the RMP area and has expanded rapidly in recent years. Along with the rapid development, industry has been pursuing legal protection of their interests by filing patent applications for private ownership on many of the developed claims. It is anticipated that many more claims will go to patent in the near future. This addition of the private lands within the RMP area may limit some options for management and could have a major impact on both wildlife habitat and livestock management efforts in future years.

2. Gypsum - Gypsum deposits up to 55 feet thick extend west of Thermopolis in the Red Canyon area but are classified as sub-economic resource. The last production of gypsum occurred in 1950. Currently no activity is occurring, however, interest has been expressed by claimants to process gypsum for soil conditioner production.

3. Titanium - One known ore body occurs in the RMP area on sandstone rims east and south of the Grass Creek Oil Field. Reserve estimates are not available, however, limited exploratory core drilling and sampling have taken place. This is a high quality ore body and future development is expected.

4. Thorium and Uranium - Rare earth deposits of thorium, uranium and hafnium occur in close association with titanium deposits.

5. Gold, silver, copper, barite, zeolites, sulphur - no active efforts are currently occurring relative to these minerals. There appears to be limited potential, but intensive prospecting efforts have not been conducted.

There are currently no mineral management plans for locatable minerals within the habitat area. Recent federal regulations require persons or companies to file mining claims with the government and to present mining plans to the appropriate state and federal agencies. The mining plans require the operator to outline methods of extraction, reclamation, and mitigation of environmental impacts. BLM reviews the plans for possible addition of wildlife and other mitigations. BLM recommendations are then submitted to Wyoming State DEQ for incorporation into the operator's mining permit. Provisions for mitigation of impacts and prevention of "unnecessary or undue degradation of public lands as a result of mineral operations" are included in the 43 CFR 3809 regulations.

3. **Salables**

A. Sand and Gravel - The terraces along the major drainages contain abundant sand and gravel.

B. The HMP area contains various rock resources for riprap, building stone, moss rock, and rockhounding and fossil extraction.

The BLM has total control over site development and rehabilitation of saleable mineral sites.

The following wildlife concerns will be considered subject to negotiation or as legally appropriate in all mineral resource actions:

1. Implement seasonal restrictions on important habitats or those used during severe weather conditions.
2. Analyze placement, maintenance and access to facilities.
3. Rehabilitate disturbed sites.
4. Encourage or require planned, unitized field development.
5. Minimize human activities, access, and disturbance.
6. Require offsite habitat mitigation to the extent practical.
7. Require wildlife monitoring to measure impacts of activity in cases where significant impacts are probable.

Recreation Management

No recreation management plans exist for the HMP area. The main consumptive recreation uses in the HMP area are hunting big and small game and upland game birds, trapping and trout fishing. Recreation use of this area is mostly wildlife related. These activities are compatible with habitat improvement and serve as the major economic justification for project proposals. Recreation can conflict with wildlife during certain periods. Other recreation pursuits include sightseeing, rockhounding, camping, ORV use, photography, snowmobiling, cross-country skiing, hiking and picnicking. These are primarily extensive recreation, not requiring facilities. Recreation opportunities are predominantly primitive or semi-primitive. The South Fork Owl Creek Canyon and Legend Rock areas are of high potential recreational use. Consumptive and non-consumptive recreational use of wildlife is an activity that significantly contributes to the local economy. Hunting guides and outfitters operate commercially on public lands in the area.

Visual resource classes are defined in Appendix O. Class II resources occur in the Upper Wood River, Owl Creek, South Fork Owl Creek Canyon and Red Canyon areas, Class III resources occur in the foothills area and Class IV visual resources areas occur in the lower basin areas.

One wilderness study area (Owl Creek which is contiguous with the existing Washakie Wilderness Area) lies in the HMP area. Interim Wilderness Management Guidelines govern the kinds of activities that can occur in the area.

Management of cultural and paleontological resources does not pose any foreseeable conflicts with the HMP objectives. In case of site excavations, mitigation during the permit process would minimize wildlife habitat disruption and maximize potential for habitat rehabilitation.

Recreation and wildlife are highly interdependent in he HMP area. Sound wildlife management is needed to insure a continuing supply of wildlife-based recreation opportunities. Proper management of recreation use can benefit wildlife by helping to accomplish harvest objectives and by preventing wildlife disturbance by recreationists during certain times of the year. Close coordination of wildlife and recreation management plans and actions will be required on a continuing basis in the interest of both programs. Area closures, road closures, access acquisition, seasonal use restrictions, and proper placement of user facilities will be incorporated in the development of recreation plans.

Soil, Water, Air

The Soil, Water and Air (Watershed) program provides two program functions to all Bureau activities. First, a support program provides the various activities with soil and water resource data and interpretation to assist in resource management, development and use. The second is an operational function to design, develop and implement field programs and projects for the protection, enhancement and rehabilitation of soil and water resources.

In Wyoming, BLM is the designated water quality management agency for lands and resources under its jurisdiction via an agreement between the Governor of Wyoming and the Wyoming State Director dated March 13, 1981 (Appendix P). The Bureau has accepted a crucial role in management of nonpoint source pollution, water quality, and overall watershed management including objectives, practices and requirement set forth in approved Section 208 plans (Clean Water Act).

An approved 208 plan exists for the Big Horn Basin and applies to the HMP area. The plan states sediment is the most serious water quality problem in the Big Horn Basin.

Watershed management objectives can be achieved through specific watershed plans when significant resource values related to soil and water resources cannot be addressed in other Bureau activity plans. Currently no Bureau watershed management plans occur for the HMP area. Other activity plans can serve as a major mechanism for consideration and achievement of watershed objectives. This HMP establishes objectives for managing soil and water resources to improve and maintain watershed conditions while achieving wildlife habitat objectives.

When management actions properly address watershed needs of the area and watershed benefits are clearly documented, funds through the 4341 (Soil, Water, Air) program may be expended on those actions or projects. Habitat and watershed management actions applied within the fragile watersheds of the Upper Owl Creeks, Wood River and Gooseberry Creek can be considered as appropriate targets for watershed funding.

Lands and Realty

Realty actions within the Bureau include land-use authorizations such as rights-of-way for leases and permits, and a variety of purposes, and land tenure adjustments such as desert land applications, recreation and public purposes leases and sales, exchanges, and public sales. High priority items include responses to requests by the oil and gas industry for rights-of-way and use permits, and land disposal actions. Other actions are primarily in response to public demand and are handled on a case-by-case basis.

Any land use authorization or land tenure adjustment should take into consideration the goals of the HMP. Actions are analyzed on an individual basis through an environmental assessment and land report.

A large portion of the land actions are not considered to have significant off-site impacts and do not routinely receive an in-depth analysis. However, long-term cumulative impacts could prevent achievement of desired goals. Among the items that will be considered on proposed actions within the HMP area are:

1. Raptor protection
2. Proper location of rights-of-way
3. Rehabilitation of disturbed areas
4. Special engineering designs
5. Seasonal use restrictions
6. Retention of access routes in disposal cases
7. Retention of lands in public ownership
8. Riparian habitat protection and maintenance
9. Land tenure adjustments

Fire Management

The existing comprehensive fire management plan for the Grass Creek Resource Area deals with presuppression, suppression and prescribed burn activities. Fire management activities and expertise including rehabilitation, should be closely coordinated with the objectives of the HMP. The following wildlife concerns will be considered in fire management actions (see Appendix N for details):

1. Maximize protection or improvement for crucial habitat areas
2. Maximize protection of riparian areas
3. Minimize equipment, retardants, surface disturbance in fragile areas
4. Use controlled vegetative manipulation as a tool for habitat development and enhancement
5. Consider rehabilitation to enhance wildlife habitat values

OTHER AGENCIES AND ORGANIZATIONS

Federal Agencies

Other federal agencies with responsibilities within the HMP area include the Shoshone National Forest (SNF), Soil Conservation Service (SCS) and Fish and Wildlife Service (FWS) and to a minor extent the Bureau of Reclamation (BR). The Bureau of Indian Affairs (BIA) manage adjacent lands along sixty miles of HMP area boundary.

Forest Service

Coordination meetings have been held and will be continued. The SNF, co-sponsors and co-developers of this HMP, has management responsibility upon 65,800 acres of the HMP area which includes year-round, seasonal and migration habitats. The HMP objectives cannot be met without SNF/BLM coordination of activities toward positive maintenance and improvement of wildlife habitat. Agreed upon habitat goals must be actively pursued by each agency if goals for migratory population are to be maintained. Winter ranges must support the animal populations migrating from the summer ranges.

The SNF, through their planning and allocation decision process, will establish standards and management prescriptions to be applied on specific SNF lands. At the point in time when their planning is complete, a much more intense coordination effort will be undertaken with BLM.

Soil Conservation Service

The SCS aids farmers and ranchers in developing farm and range management plans and provides financial assistance for project development. Three Great Plains Plans currently exists in the HMP area. The objectives and proposed projects for all long-term agreements should be closely coordinated with the objectives of the HMP. A Supplemental Memorandum of Understanding on Coordinated Resource Planning between the State Director, BLM; State Conservationist, SCS; Regional Foresters, U.S. Forest Service; Director, Agricultural Extension Service; and Chairman, Wyoming Conservation Commission, outlines procedures for interagency coordination.

Fish and Wildlife Service (FWS)

The FWS has authority over migratory and threatened and endangered species. They also conduct the federal animal damage control program. Through various interagency memorandums of understanding, predator control activities are currently controlled within the HMP area to minimal effects on big game use of winter range. Additional effort may be required to ensure minimize disturbance of big game within their crucial habitat areas. All HMP efforts will be coordinated with the Recovery Plans for the bald eagle, peregrine falcon, black-footed ferret, Rocky Mountain Wolf and grizzly bear.

State Agencies

State agencies with responsibility within the HMP area include the Wyoming Game and Fish Department (WG&FD), Department of Environmental Quality (DEQ), the State Land Board (SLB) and the State Engineer.

Wyoming Game and Fish Department

The WG&FD has direct responsibility for managing the wildlife populations within the area. They are co-developers and co-sponsors of this HMP. The WG&FD will be continually involved through formal meetings, field level reviews and funding of specific project proposals. All HMP goals and objectives have been integrated with their Strategic Plan, including big game herd number objectives. Any transplants or introductions of wildlife would be administered by the Department. Monies for contract work or research projects can be non-competitively transferred directly to WG&FD as outlined in W.O. IM No. 83-570, dated May 31, 1983 and W.O. IM No. 83-232, dated January 7, 1983. In addition to the numerous cooperative responsibilities mutually shared with BLM, the Department has the primary responsibilities for estimating and monitoring big game numbers. Without an intensive effort to document abundance of and changes in big game numbers on the HMP area, determination of success or failure in meeting HMP objectives cannot be made.

Department of Environmental Quality (DEQ)

The DEQ monitors water quality and rehabilitation of mined lands. The BLM continually coordinates with the DEQ, especially in regards to mining plans affecting the area. Plans can be modified for threatened or endangered species or if undue degradation of the environment is expected.

State Land Board

Coordination with the SLB will be essential, since state lands are intermingled in the HMP area and have considerable habitat improvement potential.

State Engineer

Coordination with the State Engineer is required for various types of water development projects involving water rights. The State Engineer, upon proper application by a user, issues permits for the use of water within the State of

Wyoming. Through the Division Superintendent, the State Engineer supervises water of the state. All improvements within this plan which entail the diversion or impoundment of water will require a water permit.

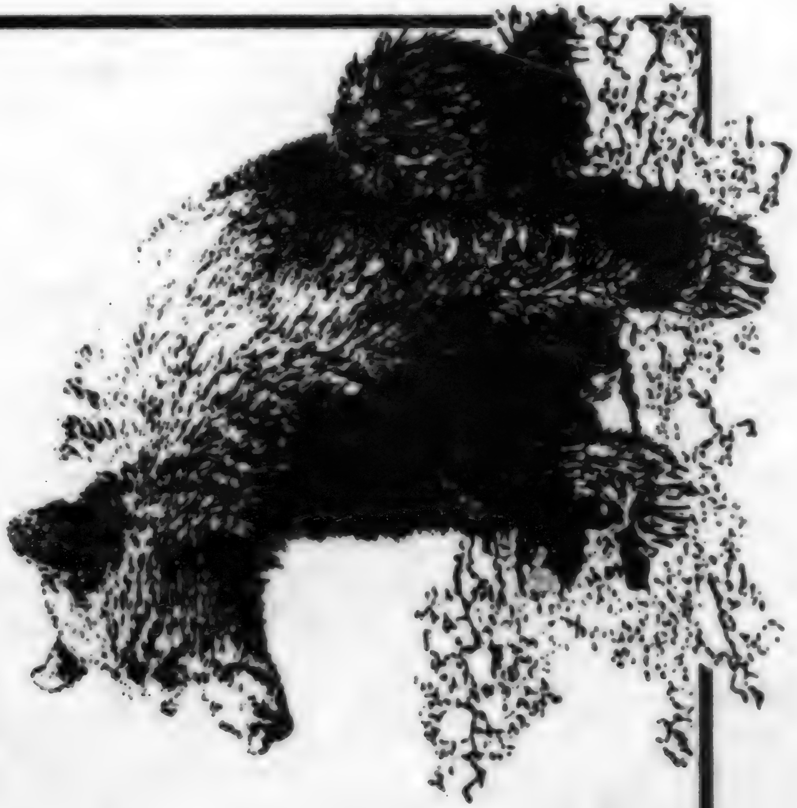
Private Organizations

Private organizations and individuals will be kept informed and contributions of money and manpower will be sought from them for habitat improvements (Washington Office Instruction Memo No. 83-644 dated June 24, 1983). Volunteer programs, such as Student Conservation Association or Boy Scouts, will be encouraged and utilized.

Wyoming Oil and Gas Commission

This commission approves certain drill site location adjustments and applies other controls on the manner in which oil and gas is developed. Their coordination will be sought as specific conflicts arise.

Public Affairs



PUBLIC AFFAIRS AND PARTICIPATION

The purpose of public participation in the Absaroka Front HMP effort is to ensure:

1. Individuals, public groups, and Federal and State agencies are informed of the background, objectives, planned actions and implementation schedule of the HMP.

2. Maximum input (comments, concerns, potential projects) is obtained from all interested parties into HMP preparation and implementation.

3. Maximum return and utilization of resource benefits are derived from habitat improvements implemented through the HMP.

Mass media tools including newspapers and radio will be used at appropriate times to inform the public at large. Specific efforts will be made in contacting individual range users, timber interests, energy interests, and wildlife based recreation organizations concerning all phases of HMP development and implementation.

Initial public participation was undertaken in the form of a full page newspaper article to produce a public awareness that HMP preparation was being started. This article solicited input from interested parties. A letter was sent to all range, timber, energy, recreation interests and cooperating agencies to inform them of the HMP and the need for individual meetings to explain the background, scope and objectives of the HMP. During sessions with individual ranchers, timber, energy, and other public users, input was requested about specific habitat management project proposals regarding the lands used by these groups. Refer to Appendix R for detailed account of public participation efforts.

The middle phase of the HMP development included incorporation of the publics input into the draft HMP. A letter was sent to all users and cooperating agencies advising them of completion of the draft and soliciting further inputs. A press release was also put in local and regional newspapers and congressmen's offices were also advised. Further meetings with Wyoming Game and Fish, District Grazing Advisory Board and State Advisory Board representatives, and other parties were held to discuss comments for common understanding. This draft was made available to all interested parties and cooperating agencies as well as for internal review. Presentations were made at this time to describe specific project proposals and implementation strategies. Groups, such as conservation organizations, sportsmen groups, boy and girl scouts, 4-H clubs, and other interested parties were contacted, and made aware their would be assistance requested on various suitable projects where volunteer help would facilitate implementation. Also, assistance with financial support for projects from local organizations was actively sought. These efforts will continue throughout the life of the HMP. A final document was prepared following further review and was distributed to each cooperating agency. Several copies were retained for district office personnel reference and review by public land users. Copies will be distributed to public land users previously contacted. The final phase will cover implementation and will stress land user and interagency coordination and information dissemination concerning specific project sites, purposes and schedules. Public presentations utilizing slide programs and news media will be prepared to portray on the ground achievement of the implemented projects.

On the ground interpretive signing will be done where appropriate. In areas of scattered ownership, public habitat will be identified by signing to the extent reasonably possible. Brochure will be prepared periodically to inform the public about HMP activities. Periodic updates, informative presentations, interagency reviews and solicitation of land user comments will be made a continuous part of the plan.

Projected costs for implementation of public information efforts will be as follows:

1. Signing costs will be dependent upon number, type and rate at which appropriate projects are completed.

2. Slide programs and visual aids - first five years - $2,000

3. Brochures - first five years - $2,500

Wildlife Economics

WILDLIFE ECONOMICS

GENERAL

A comprehensive economic analysis of the various planned actions prescribed in this area-wide HMP cannot be made at this time. Data necessary for an economic analysis is presently lacking as final project plans have not been developed. Specific project survey and design plans will be developed on all selected proposals. Each project plan will entail both a benefit/cost (to the extent possible) and a least-cost approach analyses to ensure maximization of benefits for the money expended. A cost-effectiveness analysis will also be done on each project and on similar projects, as a group, to ensure that most beneficial alternatives are highlighted. The completed economic evaluations, along with a summary of other aspects of the projects, which must be considered, will be presented to the area manager for use in ranking projects for funding and implementation.

Opportunities may develop where an individual or private organization wants to enter into a cooperative management agreement and accept responsibility for project expenses and maintenances. Such efforts and those dealing directly with funding and maintenance of HMP projects will be encouraged wherever feasible.

Economic analyses of wildlife projects on pubic lands, as for other resource uses, should take into consideration both the positive and negative impact of the actions. Typical public land activities oftentimes have negative impacts on such base resources as soil, water, vegetation, and wildlife. In the case of the proposed HMP, which is based on the Bureau's ecosystem management approach, nearly all side effects are beneficial. For example, not only will HMP projects improve conditions for nearly all fish and wildlife, but they will enhance watershed condition, increase forage, improve water quality and increase water availability for livestock use. Generally, most HMP projects entail restoration of natural habitats that have been degraded as a result of historical uses. These positive aspects will be given consideration in all project evaluations.

Some information needed for economic evaluations are available at this time. For example, the present cost estimate for fencing, an established technique for allowing natural restoration to take place, is $4,500 per mile. Each project will be individually designed and costs will vary accordingly.

Numerous methods exist for calculation of the economic value of hunting, fishing and nonconsumptive recreation use of wildlife and fish. Established values, as developed by WG&FD, are available. The WG&FD uses total expenditures as an estimate of the value for each user day (Table 3). Another appropriate method that can be used is based on a "willingness to pay" evaluation, but willingness to pay estimates for hunting and fishing are not available for this area. Table 4 notes dollar values for various game species in Wyoming based on sportsmen expenditures.

Table 3. Estimates of 1984 expenditures in Wyoming by hunters and fishermen*.

License	License Sales	Rec. Days	Per Day Expend.	Total Expend.	Expend. Per Lic. Holder
Resident	53,260	81,675	88.13	7,197,756.39	135.14
Nonresident	44,487	92,904	188.33	17,496,164.38	393.29
ANTELOPE	97,747	174,579	141.45	24,693,920.77	252.63
Resident	81,371	294,329	47.06	13,851,328.77	170.22
Nonresident	38,201	143,447	122.10	17,514,333.60	458.48
DEER	119,572	437,776	71.65	31,365,662.37	262.32
Resident	49,247	223,894	65.90	14,754,780.26	299.60
Nonresident	7,435	37,483	211.61	7,931,908.82	1,066.83
ELK	56,682	261,377	86.80	22,686,389.08	400.24
Resident	1,168	5,715	85.74	489,988.10	419.51
Nonresident	292	1,441	192.01	276,690.16	947.57
MOOSE	1,460	7,156	107.14	766,678.26	525.12
Resident	281	3,212	99.04	318,131.90	1,132.14
Nonresident	93	751	346.86	260,493.96	2,801.01
SHEEP	374	3,963	146.01	578,625.86	1,547.13
Resident	885	13,263	5.42	71,856.28	81.19
Nonresident	710	3,854	21.44	82,647.49	116.40
BLACK BEAR	1,595	17,117	9.03	154,503.77	96.87
Resident	30,016	218,308	28.90	6,309,494.15	210.20
Nonresident	3,532	25,612	39.28	1,006,146.93	284.87
BIRDS/WATERFOWL	33,548	243,920	29.99	7,315,641.08	218.06
Resident	3,779	6,542	59.94	392,099.35	103.76
Nonresident	728	1,510	135.47	204,553.06	208.98
TURKEY	4,507	8,052	74.10	596,652.41	132.38
Resident	14,984	70,046	85.05	5,957,209.17	397.57
Nonresident	814	3,686	66.37	244,651.62	300.55
SMALL GAME	15,798	73,732	84.11	6,201,860.79	392.57
Resident	123,050	2,811,073	35.79	100,615,330.35	817.68
Nonresident	14,278	244,902	23.87	5,844,610.72	409.34
Tourist 5-D	91,334	290,929	33.71	9,807,769.36	107.38
FISHING	228,662	3,346,904	34.74	116,267,710.43	508.47
TRAPPING-RES.	1,329	28,308	21.51	608,803.17	458.09
GRAND TOTAL	561,274	4,602,884	45.89	211,236,447.99	376.35

*This update is based on the 1983 Expenditure Estimates, Planning Section, June 21, 1984, whereby the Per Day Expenditures are adjusted for inflation (Consumer Price Index) at the rate of 1.03; 1984 Annual Report of Big Game Harvest; and the 1984 License Sales Summary

Table 4. 1984 Dollar Values of Game Animals in Terms of Sportsman Expenditures in Wyoming

Species	Dollar Value
Elk	$1,549
Pronghorn	297
Mule Deer	491
White-tailed Deer	569
Moose	642
Bighorn Sheep	2,836
Mountain Goat	785
Black Bear	310
Cottontail	45
Squirrel	31
Snowshoe Hare	116
Pheasant	30
Partridge	61
Sage Grouse	19
Sharp-tailed Grouse	35
Blue Grouse	38
Ruffed Grouse	44
Turkey	338
Duck	21
Goose	80
Mourning Dove	8
Rail, Snipe, Coot	25
Game Fish	14

Dollar value estimates can be somewhat misleading because some of the users are already participating in recreation activities, and attracting them to new areas does not result in significant new expenditures. In effect, estimates of user days are an indicator of expected recreation use, but the dollar values are highly variable based on the methodology used. The standard method, which utilizes WG&FD values and is presently being used throughout the district on all range, watershed and wildlife projects, will be incorporated to determine benefit/cost ratios on all HMP projects.

Planned actions dealing with habitat acquisition, road use restrictions, and human use restrictions, while being highly beneficial, do not have market values attached and it is much more difficult to determine dollar value benefit/cost ratios.

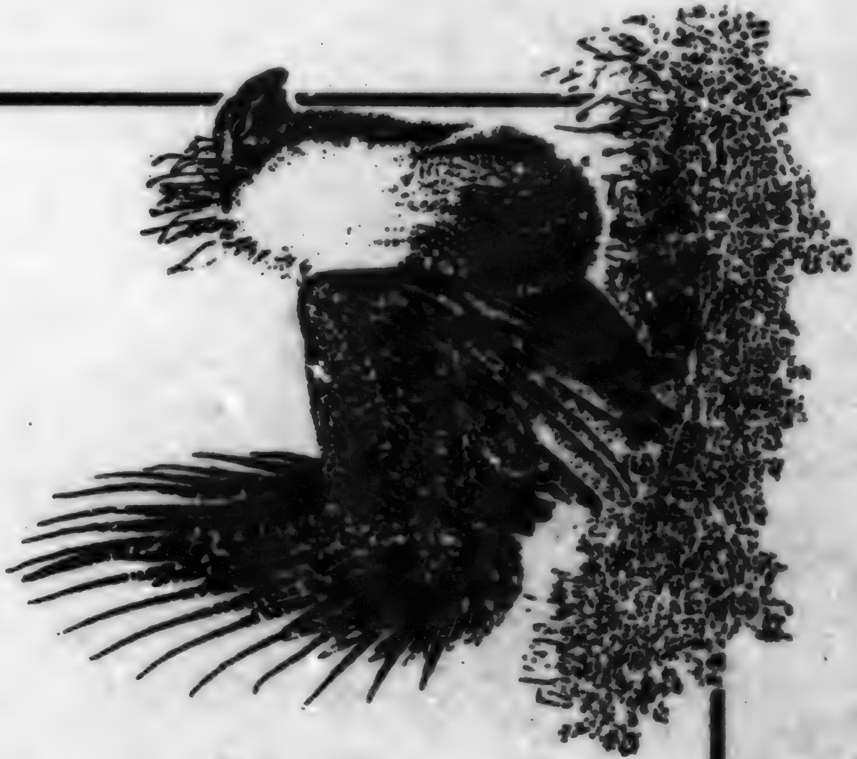
CONSUMPTIVE

All habitat restoration and enhancement work will maintain and/or increase the economic benefits associated with hunting, fishing and trapping in the HMP area. Increased winter survival and survival of young will help achieve WG&FD big game population goals which will stabilize and increase economic returns. Improved habitat will also increase furbearer/predator/trophy big game populations, as prey bases increase. Furbearers not only contribute to economic return by trapper expenditure but the gross income from raw fur in the HMP area is significant. Increasing habitat diversity, productivity, and security will also increase game bird and small game numbers on and adjacent to project sites. Refer to the Grass Creek Stream HMP for benefits of HMP implementation to fisheries.

NONCONSUMPTIVE

Economic benefits will also accrue as a result of nonconsumptive uses. The amount and kinds of non-consumptive use will depend on site locations,interpretive signing and their aesthetic appeal. Those sites visible from the main road will be most heavily used for picnicking, photographing and observing wildlife. Nonconsumptive uses, such as bird watching and wildlife photography will also take place on other sites managed for fish and wildlife.

Costs and Funding



COST AND FUNDING NEEDS

Projected cost and funding needs are presented in Table 5 for the first five years of HMP implementation. This information provides a reference through which funding needs will be requested via the annual work plan and program package request processes. Actual detailed implementation schedules are not presented herein as schedules are partially dependent upon allotment management plan completion. Most project types are established in priority groups and will be scheduled in a manner that coordinates AMP and HMP project implementation. Each project will be individually designed, which will cause considerable variability in actual costs.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

State Wyoming
District Worland
Resource Area Grass Creek
Name of HMP Absaroka Front /FY Prepared 84/85

Table 5. SUMMARY OF HABITAT MANAGEMENT PLAN DEVELOPMENT COSTS

COST ITEM	Estimated Costs ($000's) and Work-Months (W/M by Development Year)											
	Year 1		Year 2		Year 3		Year 4		Year 5		Total 5 Year Costs	
	No. W/M	$000	No. W/M	$000	No. W/M	$000	No. W/M	$000	No. W/M	$000	No. W/M	$000
ADMINISTRATION AND PREPARATION (Inc. Updating and Revision of HMP)	12	30	2	6	3	9	3	9	5	15	23	63
IMPLEMENTATION												
Project Survey and Design	.5	1.5	3	9	4	10	4	10	4	10	15.5	40.5
Project Work	--		1	5	2	20	3	30	3	30	9	85
Public Affairs (Signs, Brochures, etc.)	.5	2	1	3	1	3	1	3	1	3	4.5	14
Construction (Roads and Trails, Easements, Rights-of-Way, Buildings, Access)	--	--	--	--	--	--	.5	1	.5	1	1	2
MAINTENANCE	--	--	--	--	1	3	1	5	1.5	6	3.5	14
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)	1	5	2	10	2	10	3	12	3	12	11	49
RESEARCH	-				1	6	1	6	1	6	3	18
EQUIPMENT	/////		/////		/////	2	/////	2	/////	2	/////	6
TOTAL BLM COSTS	12	38.5	9	33	14	61	16.5	70	19	83	69.5	291.5
ESTIMATED CONTRIBUTIONS:												
State Wildlife Agency	5	12	5	12	6	18	6	18	7	20	29	80
Federal Agencies USFS*	-	-	-	-	-	-	-	-	-	-	*	*
Other					2	2	2	2	2	2	6	6
Total Contributive Costs	5	12	5	12	8	20	8	20	9	22	35	86
BLM PERSONNEL NEEDS:	FTP	TEMP	FTP	TEMP	FTP	TEMP	FTP	TEMP	FTP	TEMP	FTP	TEMP
Existing Positions	5		4		4		4		5		22	
New Positions		2		5	2	4	2	4	2	4	6	19
Total Positions	5	2	4	5	6	4	6	4	7	4	28	19

* USFS contribution will be in accordance with implementation of Shoshone Forest planning decisions presently in preparation and will be applied to Shoshone National Forest lands within the HMP area. Can expect USDA Soil Conservation Service-Great Plains Contract contributions. Amount is unknown at present.

Concurrence and Approval

ABSAROKA FRONT HABITAT MANAGEMENT PLAN

Number W1-WHA-T10 **Effective Date** 5/7/86

Location: Grass Creek Resource Area, Worland District and Meeteetse Ranger District, Shoshone National Forest, in Hot Springs and Park Counties, Wyoming

Prepared by: Jeffrey Denton
Wildlife Biologist
Worland District BLM

PROVISION FOR REVIEW, MODIFICATION, AND PRIORITIZATION

A review of the HMP will be conducted annually by the U. S. Bureau of Land Management, Wyoming Game & Fish Department, and the U. S. Forest Service during implementation to determine if the objectives are being achieved and to prioritize the upcoming job actions. Any modifications, or minor revisions, will also be made at this time if problems or opportunities are identified during the review. A routine formal review and revision (if necessary) of the HMP will be made each 5th year following initial approval.

CONCURRENCE AND APPROVAL

We, the undersigned officials, do hereby concur with and approve this HMP for Sikes Act implementation as authorized representatives for our respective agencies. This HMP shall become effective on the date when last signed and shall remain in effect indefinitely thereafter, or until subsequently modified or cancelled as noted above.

U. S. Forest Service

Kenneth H Wood 4/14/86
Shoshone National Forest Supervisor Date

Wyoming Game and Fish Department

Apr 2, 1986
Area Supervisor (Fisheries) Date

Terry Killough 4/2/86
District Supervisor Date

Bill Morris 5/7/86
Department Director Date

Bureau of Land Management

4/2/86
District Manager Date

Appendices

LIST OF APPENDICES

A. Environmental Assessment Record - Absaroka Front HMP
B. BLM Management Framework Plan Decisions
C-1 Excerpts from A Strategic Plan for the Comprehensive Management of Wildlife In Wyoming 1978-1984 and 1984-1989, Objectives, Goals, and Recommendations
C-2 Wyoming Game and Fish Department 1985-1989 Strategic Plan Herd Management Objectives by Data Analysis Unit (DAU) or areas including the Absaroka Front HMP area
D. Supplemental Memorandum of Understanding between BLM, USFS and WG&FD for Sikes Act Preparation and Implementation of Absaroka Front HMP
E. Standard Habitat Type of the Worland District (BLM)
F. Excerpts from the Threatened and Endangered Species National Recovery Plan
  F-1 Black Footed Ferret Recovery Plan
  F-2 American Peregrine Falcon, Rocky Mountain and Southwest Population Recovery Plan
  F-3 Grizzly Bear Recovery Plan
  F-4 Northern Rocky Mountain Wolf Recovery Plan (Draft)
G. Habitat Analysis Block Maps and respective index maps to U.S.G.S. quadrangle maps
H. Site Specific Proposed Actions by U.S. Geological Survey 7.5 Minute Quadrangle Maps
I. Excerpts from Grass Creek Stream HMP and Grass Creek Reservoir HMP Objectives
J. Wildlife/Vegetation Treatment Criteria and Implementation Considerations
K-1 Springs and Seeps Development Prioritization Categories - Absaroka Front HMP
K-2 Water Well Development Prioritization - Absaroka Front HMP
L. BLM Forest Management/Wildlife Checklist and Guideline Synopsis
M-1 Livestock Grazing Allotment Categorization (BLM administered lands only)
M-2 "I" Category Allotment Management Plan (AMP) Schedule
M-3 Range/Wildlife Management Guidelines and Checklist of Standards
N. Minerals Management/Wildlife Habitat Guidelines and Checklist of Concerns
O. VRM Class Objectives
P. Cooperative Agreement between the State of Wyoming by and through the Governor and Director, Wyoming Department of Environmental Quality and the U.S. by and through the State Director, BLM, Wyoming, U.S. Department of the Interior for 208 Water Quality Program Coordination
Q. Fire Management/Wildlife Habitat Guidelines
R. Public Participation Synopsis - Absaroka Front HMP

APPENDIX A

ENVIRONMENTAL ASSESSMENT RECORD

ABSAROKA FRONT HABITAT MANAGEMENT PLAN

APPENDIX B

Bureau of Land Management
Management Framework Plan Multiple Use Decisions

WY-011-EA5-37

ENVIRONMENTAL ASSESSMENT RECORD

for the

ABSAROKA FRONT HABITAT MANAGEMENT PLAN

U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT

Worland District Office

January 1986

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Worland District Office

ENVIRONMENTAL ASSESSMENT RECORD

Registry No.: WY-011-EA5-37

Title: Absaroka Front Habitat Management Plan

Location: T. N., R. W., Grass Creek Resource Area

Prepared by: Jeffrey Denton

Reviewing Staff:	Name	Date Reviewed
Lands	Leonard J. Larsen	12/1/85
Wildlife	Richard Kroger	10-30-85
Range	Taylor Carlos 12-1-85 [illegible]	10-30-85 11/12/85
Minerals	Victor P. Hufeldt	3/19/86
Forestry	Marty Sharp 12-1-85, Tim Christy	10-30-85
Recreation	Marty Sharp 12-1-85 Timothy J. Smith	10-30-85
Hydrology	William Wilson, Gary Rosenthal	10/30/85 12/15/85
Archaeology	M. Lee Dearth	3/18/86
Soils	Paul J. Mayer	3/18/86
Operations	Bruce E. Carroll	9-13-85
Chief of Resources	George B Holler	10-30-85

Concur: Phyllis Roseberry — 3/20/86
Resource Area Manager — Date

Reviewed ~~[illegible]~~ Arnold E. Dougan — 3-18-86
Chief, ~~Environmental Coordinator~~ Planning & Environmental Assistance — Date

Approved: — 3/18/86
District Manager — Date

I. Description of the Proposed Action and Alternative

A. Proposed Action

The Grass Creek Resource Area proposes to implement a Habitat Management Plan to improve, restore, expand and maintain wildlife habitats on the foothills and front range of the Absaroka Mountains from Owl Creek north to the Wood River. The HMP is guided by Grass Creek Resource Area Management Framework Plan (MFP) decisions (Appendix B of this HMP). Ecosystem management principles will be applied, and improvement, restoration, expansion, and maintenance will be accomplished through implementation of planned actions on public lands to meet the HMP objectives. Objectives and specific proposed projects are set forth on pages 17 to 22, Table 1 and Appendix G of the Absaroka Front HMP document. This Environmental Assessment (EA) addresses the general impact of the entire HMP effort as well as specific types of actions. Each specific project on public lands will go through the Worland District EA and job planning checklist process.

B. Alternatives

1. Through Cooperative Management Agreements, contract, or other means or combinations thereof, transfer wildlife habitat management to an outside entity(ies) to develop and implement studies, projects and other MFP directed actions to meet the objectives of this plan. The BLM would act as a compliance agent and liaison between BLM program functions and the entities performing the work.

2. No Action - A no action alternative consists of no effort to improve, stabilize, or protect wildlife habitats except through the indirect or accidental efforts of other programs such as range, forestry, etc. No comprehensive effort toward ecosystem management of wildlife habitats, crucial or otherwise, would occur. The no action situation provided the impetus for the Grass Creek Grazing EIS (1982) and for preparation of this HMP and the planning decisions to be implemented via the Grass Creek MFP. No action would essentially halt implementation of planning decisions by the BLM and FS for an undetermined time period, and would place dependence on other resource programs to provide for habitat improvement within their activities.

3. This alternative would allow for "I" category and "C" category allotment vegetative improvement with a primary objective of improving range condition and livestock production. Significant riparian conflicts or crucial habitat conflicts would not be addressed on "M" or "C$_2$ category allotments.

The potential for land tenure adjustments would not be addressed nor would forest, energy or access/human activity opportunities or conflicts be addressed. This alternative assumes proper range, forest and recreation management on BLM "I" and "C_1" allotments. A funding source from wildlife programs would not be directed by a comprehensive HMP.

II. Affected Environment

The environmental elements of the HMP area are diverse and complex. These elements have been fully described in the "Ecosystem Description" and "Coordination" portions of the HMP, in the Grazing EIS and URA 1-3 documents, and the Shoshone National Forest Proposed Plan and EIS.

III. Mandatory Items

The Absaroka Front HMP will at least maintain and in most instances improve conditions for threatened or endangered species, flood plains, wetlands, water quality/drinking water, and air quality. No wild or scenic rivers or ACECs are currently designated in the HMP area. Prime or unique farmlands, cultural/historic, and wilderness impacts are not anticipated from proposals within this HMP and each project proposal will be scrutinized at the time of project initiation to evaluate any potential impacts to these resources.

IV. Environmental Consequences of the Proposed Action and Alternatives

Environmental consequences will address the HMP as a whole and specific groups of actions separately for the proposed actions and alternatives. Consequences from various proposed actions are included in the Grass Creek Grazing EIS and in the Proposed, Shoshone National Forest Plan and Draft EIS. These consequences will be briefly described and referenced to the documents, where applicable.

The collective implementation of proposed actions within the Absaroka Front HMP is designed to provide positive impacts on wildlife habitats and watersheds. Wildlife, and in many cases livestock and human use response will be rapid and continue to increase until the HMP area's habitat base stabilizes over time. Benefits to other programs will be encouraged on all projects, if compatible with HMP objectives. Overall, long-term benefits to other programs including range management, recreation, and watershed, will outweigh the negative impacts to these resource programs. Oil and gas activities may be negatively impacted through more stringent mitigation actions but long-term habitat stability and concurrent planned energy exploration and development will occur. Forest development and HMP objectives will be planned to benefit or complement both activities. A stable habitat base will allow for greater flexibility for short-term commodity uses due to a better disbursed habitat base to temporarily support displaced wildlife needs. Stable habitats will support desirable wildlife population levels and a stable recreational industry. Positive and negative consequences of various actions will be covered under each type of action. The HMP provides for comprehensive input into other activity plans, cooperative funding of projects through other plans, and outside funding from other agencies via the Sikes Act.

Objective I - Enhance and maintain the abundance and distribution of forage, cover and water for wildlife.

Vegetation Manipulation

Vegetation manipulation projects include prescribed fire, aspen treatment, silvicultural treatment, mechanical/chemical treatments, and seeding/planting. Methods will be based on site specific objectives, impacts to other uses, and cost. All treatments will require a minimum of two growing seasons of rest from livestock grazing following treatment. This will represent a short-term loss of livestock grazing on treatment sites. Long-term forage quality, quantity, and diversity improvement will outweigh temporary non-use. Most wildlife burn sites will be on steeper slopes or on areas receiving marginal cattle use. Range program improvements will concentrate on livestock use areas. Currently 5,110 acres of prescribed fire are proposed over a 15 years period. Burning is preferred to other treatments in sagebrush and limber pine types to minimize short or long-term loss of forbs, which are sometimes a significant portion of the forage base for summer mule deer, livestock, and other big game. Short-term air quality impacts may occur from dispersing smoke; however smoke dispersal considerations are included in any fire prescription. All prescribed burning projects occur upslope from major population centers.

Short-term adverse impacts will occur when wildlife concentrate on new burns and when nongame cover is removed.

Mechanical treatments are barred by terrain and access problems as are chemical methods which cause significant damage to forb diversity and cannot be controlled to create mosaic patterns for habitat diversity. Short-term adverse impacts will result from heavy wildlife use on new burns and loss of cover for small birds and mammals. Rapid increases in cover and forage production and nutrition will occur on burn areas. Long-term cyclic burning may be required at 3-50 year intervals to maintain habitat values.

Aspen treatment will begin following inventory of aspen stands, and will restore 2-4,000 acres over a 15 year period. Aspen constitutes a high value resource currently in poor condition and declining in acreage. Aspen site renovation increases vertical structural diversity, forage production, and cover for livestock and wildlife. Other programs and land uses will not be effected. Again, a minimum two growing season non-use by livestock will be implemented to give resprouting aspen an opportunity to become established.

Seeding and planting is intended to restore native shrubs, trees and forbs to the ecosystem where historical land uses have eliminated them. This activity will be restricted to rehabilitation of disturbed construction or logging sites, and stream and spring/seep areas. Other programs or uses will not be significantly impacted through this action.

Chemical and mechanical treatments in brush types or logging areas will occur where topography allows these methods and where mosaic habitat diversity can be controlled. Where single age class sagebrush stands are extensive and where multiple age class stands are needed or meadow complexes can be restored, mechanical or chemical means are usable. In lower rainfall zones (less than 10") fire is not effective and alternate mechanical means are viable methods.

Watershed/Channel Stabilization

Such projects will be designed to create wet meadow complexes and check erosion losses. Feasibility for placement of spreader dikes, check dams, trash collectors, instream structures, etc. will determine sites and specific practices used. Such projects will enhance livestock forage productivity as well as provide wildlife habitat and watershed/water quality improvement. Some degree of short-term initial livestock grazing control will be necessary to provide for desirable vegetation establishment. Other resource uses will be significantly affected. Water quality will be improved by reducing sediment loads.

Land Tenure Adjustments

Land tenure adjustments are needed to alleviate forage, cover and security conflicts on crucial wildlife habitats. Methods anticipated are easement, acquisition, exchange, purchase and gifts which involve State Lands, BLM, FS, FWS, private organizations, and individuals. Potentially, 25,000 acres could be considered, depending upon willing participants. The purpose of ownership changes would be to ensure long-term integrity of crucial habitats, thus providing for a stable habitat and watershed resource. Impacts to most uses would be positive. Livestock management would benefit by providing public land blocks and private land blocks large enough to be managed by the appropriate land manager as pastures or allotments without conflicts with inholdings of the other party. Public recreation and land use would benefit by providing definable, usable blocks of public land. Timber management and access thereto could be improved. Minerals resource uses may not change appreciably as mineral rights would probably be retained, however, greater consistency in surface stipulations and minerals management would occur on larger blocks of public lands. Impacts from actions on private lands would have less effect on adjacent federal surface resources. Any land tenure action would go through the appropriate process for lands actions including environmental assessments. Possible negative impacts to current users of localized public land tracts that would be exchanged out of public ownership could occur.

Water Developments

Water developments include guzzlers, springs, seeps, wells, reservoirs, stream water sources and catchments. Water quality in the eastern portion of the HMP area and degraded riparian vegetation over much of the HMP area are limiting factors. About 200 springs and 30 other waters on public lands exist in the HMP area. Most are unmanaged, undeveloped, and degraded. Developments will increase availability of quality water and result in long-term benefits to wildlife and livestock. Such developments will be coordinated with range management objectives and needs and will create long-term highly productive habitat islands. Other resource uses will not be significantly affected, except for improved recreational opportunity.

Research and Inventory

Supporting research and inventory efforts include restoration of shrub species, determination of habitat selection and use, development of guidelines, forestry and oil and gas to minimize impacts to habitat quality and usability, livestock competition on wildlife habitat, selection, refinement of SCS guides to incorporate wildlife needs, and aspen inventory. These items will fill major data gaps that will allow more efficient habitat improvement and coordination of HMP goals with other programs. Such studies will provide guidance for reclamation efforts of other public land users and help eliminate ineffective efforts of rehabilitation or restoration of habitat.

Objective 2 - Eliminate or minimize effects of man-caused disruptions or restriction to wildlife migration, movement or habitat use

Barrier Fences

Sixty-five miles of barrier fences and unnecessary or hazardous fences have been identified and many more miles exist. New fence construction will comply with fence designs allowing free movement of wildlife and providing for constraint of livestock. Coordination with forest and range management programs will ensure free movement of wildlife, facilitate livestock management, and protect unique or high value habitats. Other resource uses will not be impacted significantly; however, livestock operators might resist increased wildlife use due to fewer movement barriers. Public safety will be served by removal of deteriorated and useless fences.

Road Use Control

Road use controls will entail implementing road density criteria based on cover values to limit impacts to elk habitats. Closures of specific roads are proposed either seasonally or yearlong in crucial wildlife habitats. Restrictions on off-road vehicles, snowmobiles and ATVs will also be implemented, but foot and horse access will be encouraged. Moose, elk, bighorn sheep and mule deer habitats will be most improved from these actions.

Controls of vehicle use will alter land use intensity. Alternate access modes (foot, horseback) will diversify recreational uses in sensitive habitats and under current use intensity will not prevent wildlife use of available habitat. There may be inconveniences to range user activities, timber management actions (closing temporary logging roads), recreationists (redesignate roads to be used). Seasonal closures on sensitive habitat areas will inconvenience but not curtail energy, minerals, and timber activities. All closures will be subject to review, need for vehicular access, and may be reversed with proper mitigation to provide access for oil and gas lease development. Proposed closures are noted in Grass Creek HMP documents.

Human Use Restrictions

Human use restrictions could affect snowmobiling, cross country skiing, and newly contrived recreation actions that cause impacts on crucial winter, spring, and breeding ranges and buffer areas. Aerial animal damage control activities would be limited to areas outside of crucial elk and bighorn sheep ranges where legitimate damage claims can occur and "hot pursuit" is involved. Big game concentration areas will include a two mile buffer zone in which ADC from aircraft is not allowed. These actions will ensure long-term crucial habitat usability, thereby maintaining a habitat base to support desired populations of priority species.

Impacts will be primarily to recreational uses during particular seasons in specific areas. This is not anticipated to be a significant impact based on current recreational use levels; however, it could become significant during the full life of the HMP.

Objective 3 - Restore specific priority species habitat to good to excellent condition and cooperate with WGFD and USFS to meet agency and Strategic Plan population goals.

Actions consist of coordinating multi-program efforts to restore bighorn sheep habitats, conduct joint feasibility studies, and cooperate in supplemental transplant efforts. Also, cooperate with WG&FD to provide for game bird occupancy in areas of unoccupied habitat.

Impacts to other uses from upland game bird transplants would be minimal. Supplementary bighorn transplants could possibly enlarge the current area of use or intensify the use by bighorn. To meet strategic plan goals some adjustments in grazing season or pasture use may be necessary. Area of habitat potential for supplementing the existing bighorns would affect five range users in the Upper Owl Creek Area. Significance to these livestock operators will be evaluated if such transplants are feasible. Seasonal stipulations for energy activities are currently in place. Should transplants occur new crucial areas of use may develop and necessitate site specific stipulations for oil and gas development or exploration. This may adversely affect energy exploration and development efforts in localized areas.

Objective 4 - Manage perennial streams, intermittent streams and reservoir sites in order to support fisheries and wildlife. Refer to Grass Creek Stream HMP and Grass Creek Reservoir HMP, Environmental Assessment Records for impacts from such actions. Also the Draft EIS for the Shoshone Forest Plan and Grass Creek Grazing EIS refer to such impact analysis.

Alternative 1 - Through Cooperative Management Agreements (CMAs), contracts, other means, or combinations thereof; transfer wildlife habitat management to an outside entity to develop and implement studies, projects and other planning decision directed toward meeting HMP objectives.

This alternative would in theory accomplish the objectives of the HMP, and environmental consequences would be similar to the proposed action. The BLM would serve as a liaison and middleman for HMP implementation. Cost for implementation of this alternative would reflect the extra layer of coordination in dealing with the entity(ies) performing HMP implementation. The day to day continuity needed to comprehensively manage wildlife habitats with the multitude of other land uses under this HMP alternative would result in higher costs, time delays for other use activities, missed opportunities, and slower implementation due to uncertain funding from year to year.

Alternative 2 - No Action

Wildlife habitat management would be guided by range, timber, and lands program priorities without comprehensive direction or Sikes Act support from other agencies. Piecemeal approach to wildlife habitat management would occur and MFP decisions would only be implemented on those parcels of land which are priorities for other programs. Opportunities on other areas for wildlife habitat would not be addressed. Intensive coordination with WGF for yearlong habitat management would not be as intensive. Specific funding for habitat would take a backseat to the leading program management needs.

The reactive agency response to oil and gas exploration and development needs would continue in its present manner. Mitigation habitat for displaced animals would be limited due to lack of comprehensive and flexible habitat management.

Implementation of wildlife management through dependency upon the activity plans of other programs would be subject to the limitations of the actual scheduling, prioritization, development and implementation of activity plans. High value habitats may or may not be considered in such plans. For example, grazing management plan priorities deal with "I" and "C_1" Category allotments only and while these allotments do have wildlife habitat concerns the "M" category allotment may have equal or greater needs or opportunities for wildlife habitat management. Wildlife habitat would not be comprehensive but instead piecemeal and uncoordinated in scope and implementation. Recreation and timber management plans while comprehensive for these resources again limit wildlife habitat management to the specific sites and actions of those plans. Coordination between all activity plans for habitat management would be cumbersome and still result in piecemeal habitat management. An ecosystem approach would be difficult to attain. Interagency coordination with the HMP would be insignificant when dealing piecemeal with habitats that span administrative and use area boundaries.

This alternative however would address wildlife habitat management in those timber sale areas, allotments, energy project, recreation sites where the appropriate program is concentrating efforts.

Land tenure adjustments would not be considered in light of long-term habitat management except on select areas with livestock management as a primary goal.

The lack of a comprehensive ecosystem approach would not achieve a stable base habitat situation for the entire HMP area, nor address the needs and opportunities available. The concentration of site specific plans could cause long-term wildlife concentration on improved areas instead of long-term objectives for improved wildlife distribution. This in turn could intensify conflicts on activity plan areas.

Achievement of HMP goals would only be partially fulfilled under this alternative and habitat management would falter under oil and gas development and exploration as no activity plan can address this program in which agencies react to rather than plan activities. Funding for habitat management would be much more dependent upon other resource programs and the opportunities for Sikes Act or other funding sources would be inhibited. Habitat management would be low priority under the auspices of other resource activity plans and as funding is usually restricted for use in areas covered by a completed HMP.

V. Mitigation and Monitoring of Impacts Resulting from the Proposed Action

The entire HMP emphasis is to expand, improve and maintain natural wildlife habitats on public lands. All significant mitigation actions will be incorporated into the interdisciplinary design of each project to prevent adverse effects. Depending upon significance of impacts and project type individual categorical exclusions or environmental assessments will be prepared to evaluate impacts. Proper monitoring and maintenance needs as well as mitigation will be addressed at this time as well.

Monitoring will be made a part of all specific project actions to document success and failure of projects in regard to meeting objectives of the HMP. Habitat structural and species diversity, animal abundance and diversity, actual use, forage utilization, distribution, recreational use and value, watershed condition and other parameters will be monitored as appropriate. Table 2 of the HMP document notes monitoring basic needs for specific planned actions.

VI. Residual Adverse Impacts

The HMP emphasis is to improve and maintain wildlife habitats with secondary emphasis on improving management of public land resources. No residual adverse impacts are anticipated at this time from Absaroka Front HMP actions.

VII. Short-Term/Long-Term Impacts

There will be short-term impacts of various HMP planned actions as noted under Section IV of this EA. Under that same section it is noted that long-term benefits to habitats, range management and recreation outweigh short-term impacts. Planned actions when implemented will provide a long-term habitat management flexibility that will enhance mitigation needs caused by adverse impacts from energy, range, recreation and timber management. There may be localized long-term socioeconomic impacts to energy and livestock users, however, this plan provides flexibility to cope with conflicts and benefits to a multitude of public users will occur.

VIII. Irreversible/Irretrievable Commitment of Resources

The Absaroka Front in providing an ecosystem management premise, does not anticipate irreversible or irretrievable commitment of resources. Ecosystem management, interdisciplinary coordination, and HMP emphasis on improving resource capability will not knowingly cause irreversible or irretrievable resource commitment.

IX. Monitoring of Proposed Action and Environmental Assessment

Part V describes type of monitoring to be implemented. The cumulative monitoring results will determine the effectiveness of the various proposed projects in meeting HMP objectives and of individual actions effectiveness as well.

X. Consultation and Coordination

List of preparers

Jeffrey W. Denton, Wildlife Biologist, Grass Creek Resource Area

Numerous resource specialists and individuals were contacted during all phases of HMP development. The HMP preparation and review checklist lists major parties contacted. Extensive public involvement was conducted throughout development of the HMP. This information is presented under Public Affairs and in Appendix E of the HMP document.

Decision Record
EA No. WY-011-EA5-37

I. Alternatives Considered

A. Proposed Action
B. Implement via other Bureau resource activity plans (AMPs, TMP, RMP, etc.)
C. Implement via CMA, contract, or transfer wildlife habitat management to a non-Bureau entity.
D. No action.

II. Decision and Rationale

A. Implement identified and proposed HMP projects as per Grass Creek MFP Decision.

B. The proposed habitat improvement, expansion, restoration and maintenance projects and practices will serve to maintain the existing habitat base as related to other program activities that impact said habitat base, and help meet cooperating agencies' goals for wildlife and wildlife habitats. All project work and practices will be guided to benefit multiple resource values. All projects will eventually improve and stabilize habitat parameters of water, cover, food, and space.

III. Conclusion

According to analysis of the HMP in the attached EA, I conclude this action will result in no significant adverse impacts to the environment and an EIS is not required.

Phyllis Roseberry
Area Manager, Grass Creek Resource Area

3/20/86
Date

District Manager

4/2/86
Date

APPENDIX B

BLM MANAGEMENT FRAMEWORK PLAN DECISIONS

APPENDIX B

Bureau of Land Management
Management Framework Plan Multiple Use Decisions

Refer to the Grass Creek Reservoir HMP and the Grass Creek Stream HMP for Management Framework Plan decisions dealing primarily with wetlands. Decisions herein address primarily terrestrial habitat management.

Objective:

Provide habitat for current wildlife populations and the expansion of wildlife into high potential habitats currently unoccupied.

Decisions:

WL 4.1

1. Allocate sufficient forage and cover on public lands in each grazing allotment to meet the essential requirements for the big game management levels identified for each allotment on the attached Addendum No. 1. These numbers are based on the Wyoming Game and Fish Department strategic plan.

2. Where the range and wildlife monitoring studies show there is not sufficient carrying capacity in an allotment to support the total grazing use by livestock, wildlife and wild horses, the 'strategic plan' goals will be re-evaluated with the Wyoming Game and Fish Department to determine necessary modification to meet resource needs.

3. Adjustments in forage allocation will be made to conform to modifications in the Wyoming Game and Fish Management goals (numbers). The adjustments will be worked out through consultation with affected parties including grazing permittees, Wyoming Game and Fish Department, etc.

WL-4.2

Acquire through exchange, private land surface in the Upper Owl Creeks, Upper Cottonwood Creek and Upper Grass Creek area to block public land surface ownership (Same as MU Recommendation L-7.1c).

WL-4.3

Cooperate with the Wyoming Game and Fish Department and the Shoshone National Forest in any bighorn sheep transplants they propose for the Upper Owl Creek country. This would include conducting habitat suitability evaluation on the public lands, modification of livestock management of adjustment of livestock use where necessary to improve habitat conditions to ensure a successful reintroduction.

WL-4.4

Cooperate with the Wyoming Game and Fish Department in the introduction of Hungarian partridge into public lands in the resource area where the Department determines the need for the introduction.

Objective:

Improve wildlife habitats to support reasonable wildlife populations and species diversity.

Decisions:

WL-5.1

No livestock forage will be allocated in the fragile alpine areas above 10,000 feet elevation. (Same as Multiple Use Recommendation RM-3.1-8).

WL-5.2-4

Provide input into the development of Allotment Management Plans in "I" Category allotments that assures proper wildlife consideration will be given to:

1. Deferment of livestock grazing on elk spring range and calving areas and antelope and deer fawning areas.
2. Deferring or resting pasture in elk breeding areas.
3. Resting pastures in elk wintering areas.
4. Providing rest pastures in allotments located in important big game areas.
5. Deferment of livestock grazing blue grouse nesting and brood areas.
6. Restricting livestock to winter grazing in Hungarian partridge habitat where bluebunch wheatgrass is predominant.
7. Changing class of livestock from sheep to cattle in allotments where there is crucial winter antelope habitat.
8. Development of grazing systems.

WL-5.5

1. Modify fences on public lands that are significantly hindering or stopping natural movement of wildlife to conform to fence standards outlined in BLM Manuals 1737 and 9170.

2. Priorities will be given to fences that are restricting the greater numbers of wildlife, located in or adjacent to calving and fawning areas, and/or fences in big game winter areas.

3. Affected parties will be consulted prior to scheduling fence modifications to ensure a mutual understanding of the need for the change and for establishing acceptable fence standards.

4. Remove those fences from the public land that no longer serve any purpose and are a hazard to wildlife.

WL-5.8

Habitat Management Plans (HMPs) will be developed simultaneously with Allotment Management Plans (AMPs). Suggested priorities for developing HMPs and AMPs are:

1. High production areas
2. Wild Horse Management Areas
3. Areas with Forest Management Plans
4. Aspen renovation areas

WL-5.9

1. Develop new waters or additional water in potential wildlife habitats currently unoccupied by wildlife due to lack of water.

    a. Desirable methods include water catchments, guzzlers, springs, wells, pipelines, snowbank melt water pits and overflow areas, etc.

    B. Some recommended accessory facilities include sunken water troughs, bird ladders, drip pipes, storage tanks, etc.

    C. Design water facilities to supply wildlife water during winter or cold weather periods. Examples include piping water through reservoir fills, installing insulated covers over water troughs, solar heaters, bubblers, etc.

    D. Protect wildlife watering areas by fencing livestock out, covering with brush piles, etc.

    E. Locate waters to provide cover avenues to the water site, create cover avenues to water sites by planting tree and shrub species or placing brush piles near water sites, etc.

    F. Develop season long water by adding storage facilities adjacent to wells, seasonal springs and possibly reservoirs that hold water for short periods.

2. Develop and protect succulent vegetation areas in conjunction with wildlife water developments.

   A. Provide for overflow from water troughs, provide drip pipes, expand catchment surface area to provide excess water for overflow, etc.

   B. Protect the succulent vegetation areas from livestock grazing by fencing.

3. Modify existing livestock water facilities to provide additional wildlife waters - as outlined in No. 1 above.

WL-5.10

Consider the construction of water spreader (i.e., check dams, dikes, etc.) to improve or develop wildlife habitat when developing habitat management plans.

WL-5.12

1. Big sagebrush stands will be modified or treated to develop, maintain and improve wildlife habitat on big game summer and winter ranges. The type of sagebrush treatment and location will be determined during HMP development.

2. The design and location of such treatment will be closely coordinated with watershed, range and recreation activities to resolve conflicts, identify constraints and modifications that will optimize benefits to be derived from he sagebrush treatment.

3. Sagebrush treatment implementation and design will:

   A. Require complete rest from livestock grazing the first year following treatment and deferment from livestock grazing through seed ripe on key species on the second year following treatment as a minimum.

   B. Require that vegetation manipulation treatment (sagebrush stand modification or removal) conform to wildlife Addendum No. 2 (attached).

   C. The use of herbicides will be closely supervised to ensure compliance with regulation and to ensure protection of wildlife species.

4. Sagbrush stand treatments in the Upper Owl Creek area will not significantly impair the natural character and scenic quality of the area and will strictly comply with the Visual Resource Management Class II for that area.

3. Sagebrush stand treatments in all areas will conform to the respective Visual Resource Management Class for each respective area.

4. Prescribed burn treatments will be conducted under guidelines and restrictions outlined in the Fire Management Plan for the Grass Creek Resource Area. (See MU Recommendation 5-1.1).

WL-5.14, 5.15

1. Re-establish 2,000 to 4,000 acres of aspen stands in the GCRA.

2. Re-establish or introduce upland shrubs species on important big game and game bird ranges where desirable shrub species are lacking or are non-existent.

3. Develop and improve wildlife habitat to replace former habitat that is lost to large scale or intensive surface disturbing uses such as oil and gas field development, mining, etc.

4. Encourage timely rehabilitation of surface disturbance areas to minimize impacts to wildlife habitat. Plant seed mixtures that include desirable forage and cover species that are preferred by wildlife present on the area.

5. Provide for protection of disturbed areas until rehabilitation is completed.

6. Maintain cheatgrass communities in important chukar areas.

7. Site specific projects for vegetation establishment, habitat development and improvement and identification of specific important habitat areas will be covered by an appropriate activity plan - AMP, HMP, etc. Projects will be prioritized in each plan.

Objective

Maintain current levels and diversity of wildlife habitats.

Decisions:

WL-4.1

Participate in the evaluation and designation of essential and critical habitat for T/E species known, or throughout, to inhabit the planning unit. Request funding for evaluation studies to expedite critical habitat designation as appropriate, and exercise the necessary measures to prevent the degradation essential habitat.

WL-6.2

Recognize specific areas as important use areas for certain species of wildlife. These important use areas should receive special consideration in the conduct of other activities to maintain wildlife goals. Suggested management options include:

1. Activity assessments based on no less than 5,000 acre habitat blocks (see Recommendation WL-6.9, 6.6 and 6.16).

2. Consolidation of lands for better management (see Recommendation WL-4.2 and L-7.1).

3. Elimination and/or restriction of, livestock grazing (see Recommendation WL-5.1, 5.2, 5.3 and 5.4).

4. When wildlife thresholds have been met or exceeded, compensation in kind will be undertaken to the extent possible.

The following tentatively identified areas and species should be considered as the most important habitat use areas:

Upper Owl Creek (Bighorn sheep, elk, moose)
Rattlesnake Creek (elk)
Lime Point (elk)
Hydes Hole (Bighorn sheep)
Jones Flat (elk)
Twenty-One Creek (elk)
Bigger Creek (elk, moose)
Upper Grass Creek (elk, moose)
Castle Rocks (Bighorn sheep)
Mudstone Ridge (Bighorn sheep)
Sugarloaf Creek (Bighorn sheep, elk, moose)
Buck Creek (elk)
Lake Creek (elk)
Blue Creek (elk, moose)
Cottonwood Creek (elk, moose)
Moon Point (elk, moose)
Hammer Draw (elk)
Iron Creek (elk)
Elk Creek (elk)
Moss Creek (elk, moose)
Thompson Draw (elk)
Raspberry Draw (elk, moose)
Enos Creek (elk, moose)
Left-hand Creek (elk)
Leon Baird Peak (elk)
Soapy Dale Peak (elk)
Upper Gooseberry Creek (elk)

Deer Creek (elk, moose)
Hall Creek (elk, moose)
Middle Creek (elk)
Mormon Creek (elk)

These areas, or combinations thereof, will be incorporated into HMP areas in cooperation with the USFS and WG&FD.

WL-6.3

Encourage cooperative wildlife goals with State Lands Department to manage habitats on their holdings adjacent to public lands to provide a continuum of habitat use. Wyoming Game and Fish should be a part of such cooperation. Cooperative agreements are desirable. Enos Creek, Grass Creek and the state land around Noon Point.

WL-6.4

Enter into an agreement for coordinated management rangelands between the Shoshone National Forest and the Worland District for managing logical units that extend from BLM grazing allotments on to National Forest allotments.

WL-6.7

Develop a close working relationship with companies making new oil and gas discoveries in important wildlife areas to:

1. Apprise the company of the wildlife needs and potential conflicts with oil field development.

2. Establish mitigation or other protection measures to minimize impacts to wildlife habitat.

3. Encourage the company to lay out a schedule or plan for field development so that support facilities, roads, powerlines and treaters, etc., can be located to minimize impacts to habitat and affects on the wildlife.

WL-6.8

1. Periodically field check oil fields in elk areas to identify motor noise problems that should be corrected. Coordinate these findings with the compliance personnel for corrective action with the oil company.

2. Identify those oil fields where there are potential conflicts with waterfowl landing on unflagged mud and sump pits. These fields will be identified on the oil and gas retrieval map showing required flagging on all open mud and sump pits. Compliance will be responsible for followup action.

WL-6.9

Specific Timber Manager Practice to be followed in all timber harvest activities to develop, protect and enhance a diversity of wildlife and crucial wildlife habitat include:

1. Allow no clearcut wider than 300 yards in any direction. This limits the maximum size to approximately 15 acres.

2. Limit most timber harvesting activities to the dates June 1st through November 1st each year. Exceptions will include areas under Timber Contract Sales. Fuelwood, post and pole sales will be shut down two weeks prior to and through the end of big game hunting seasons.

3. Slash disposal should be considered on a case-by-case basis with emphasis placed on wildlife needs as well as forest regeneration.

4. Broadcast burning should be used as a management tool to increase forage production following timber sale.

5. Do not cut trees or snags that provide important habitat for cavity/snag nesting wildlife species. The area wildlife personnel will identify trees important to wildlife.

6. A corridor of timber at least one sight distance (distance at which 90% of an animals is hidden from view by cover) from the road, between clearcut areas, parks, timber wetlands, and wallows will normally be left standing to maintain wildlife escape cover.

7. Soil and vegetation disturbance will be held to a minimum so that natural forest regeneration will continue.

8. Curtail the proliferation of new roads and close specified roads as problems arise. Spur roads into timber stands will be closed following timber related activities to cut down human activity in log areas. After logging operations, spur roads will be waterbarred and seeded with wildlife preferred grasses, forbs and shrub mixture.

9. Provide buffer zones between timber harvest areas and streams to cut down sediment into stream fisheries.

10. Plant forb, shrub and grass species that are preferred wildlife food and cover species in clearcut areas.

11. Confine or unitize timber harvest, post and pole cutting activities, etc., to only a few timber stand at any given time to cut down the conflicts between human activity and wildlife.

12. Protect forest plantings by fencing livestock out. Place poles atop fences in timber areas to prevent big game damage to the fences as well as big game animals becoming entangled in the fences.

WL-4.10

Land use activities must use wildlife protection standards for road systems to maintain minimum habitat to support Wyoming Game and Fish Department wildlife management goals. Multiple discipline input and control of development on habitat analysis blocks is needed. Habitat analysis blocks may vary from not less than 5,000 acres in elk habitats to smaller areas on the basin floor.

WL-4.13

Carefully review such new livestock water development proposals as provided in RM Recommendation RM3.3.

Emphasis must be directed to maintaining sufficient supply of available forage on crucial big game winter areas to support the big game animals dependent on each specific area.

WL-4.15

Annually review the USFWS-BLM Interagency Agreement on Animal Damage Control on Public Lands - Worland District Supplement to identify changes needed in the control, non-control and restricted control areas prior to November 1.

WL-4.16

Propose to the Wyoming State Office that studies or research projects be setup with outside agencies such as the Wyoming Game and Fish Department and the University of Wyoming to gather the types of information outlined in Items 1 through 5:

1. Basic life history and ecology studies of the big game animals (bighorn sheep, moose, elk, antelope, mule and whitetail deer) of the Grass Creek Planning Unit to encompass: 1) seasonal habitat use and selection (including crucial areas, topographic selection and migration routes); 2) human land use activity impacts (including development of use criteria and guidelines); and 3) food habits evaluations (including domestic livestock and wild horses) and autecology of potential shrubs for establishment on game ranges.

2. Basic life history and ecology studies of the game birds (especially sage and blue grouse) of the planning unit to include: 1) identification and evaluation of crucial habitat; 2) population status and dynamics (i.e., natality and mortality rates, etc.); 3) habitat inventories and evaluations (i.e., wet and dry meadow inventories, etc.).

3. Detailed research as to bear and lion reproduction, population status, distribution, habitat selection and prey relationships in the GCPU, as well as adjacent USFS lands.

4. Monitor T/E species occurrence and habitat use (including movement patterns), as well as population dynamics and status.

5. Research the activities evaluating short and long term impacts of single, or collective, geophysical and energy-mineral development activities on game habitat uses and population stability.

The Bureau's access, fire, lands, minerals, forestry, range management, watershed and recreation MFP objectives and decisions for the Grass Creek Resource Area also pertain to this HMP. Applicable decisions include:

Access

A-17 - Physically close and stabilize the roads which meet the following criteria:

A. Damage to or conflict with resource values is occurring as a result of the instability of the road itself or as a result of vehicle traffic on the road.

B. The public land served by the road is adequately served by another road for present or predicted purposes.

C. Contact with the public special interest or need in keeping the road open.

Fire

Prescribed fire or burning will be used to:

--cleanup old timber sale areas (see FP-2.1)
--burn mountain pine beetle infested trees (see FP-3.2)
--clear forest stands of understory vegetation, rid timber sale areas of slash, maintain certain successional stages of trees, improve timber stand productivity (see FP--3.6)
--improve wetland areas to benefit wildlife habitat (see WL-3.3)
--burn sagebrush stands for wildlife habitat improvement (see WL-5.12 and WL-5.13)
--reestablish 2,000 to 4,000 acres of aspen stands (see WL-5.12)
--burn 8,000 to 9,000 acres of sagebrush and juniper for range improvement to increase livestock forage (see RM-3.3)

An activity plan outlining resource management goals and objectives is a prerequisite to developing a prescribed burn plan. Prescribed burn plans will be prepared for each burn area or site.

Lands

L-7.1 - Classify for disposal, in response to petition applications or Bureau Motion, small parcels of land which meet the criteria for disposal, and because of its location or other characteristics, is unmanageable as part of the public lands with the understanding that exchange would be emphasized over outright sale and limited to surface ownership only.

Acquire through exchange private land surface in the Upper Owl Creeks, Upper Cottonwood Creek and Upper Grass Creek area to block public land surface ownership. Such exchanges must be favored and supported by the affected private landowners.

Minerals

M-1.1 -* Items 2e-i have been superceded by Wyoming Instruction Memorandum WY-85-259, Wyoming Oil and Gas Lease Stipulations. 2a-c.

2d. Surface occupancy will not be authorized where oil and gas related activities result in significant adverse impacts on threatened and endangered species habitat.

e. No exploration, drilling, surface occupancy, or other development activity will be allowed within a 1/4 mile distance from lek center without written permission from the authorized officer.

f. Exploration and drilling and other development activity will be allowed only during the period from June 15 to March 1 (above 6,000 feet elevation June 30 to March 1) within 2 miles of the lek center. This limitation does not apply to maintenance and operation of existing wells and is not intended to restrict development activity during the allowable period with the exception of those areas where it is determined that significant impacts will occur to sage grouse populations. Inspection of proposed drill pads and associated pipelines and access roads will be accomplished by the area biologist and area manager to determine where development may occur within the two mile zone.

g. No occupancy, exploration, drilling and other development will be allowed in "crucial" big game winter range, migration routes or perturition areas.

h. No oil and gas related activities will be authorized in identified big game winter habitats, migration routes or perturition areas from November 1 to May 1 without written permission of the authorized officer.

i. No occupancy, or other site specific surface disturbances will be allowed within 500 feet of seeps, wet meadows, springs, reservoirs, irrigation ditches or perennial streams and riparian habitat without written permission of the authorized officer.

EXCERPTS FROM: Wyoming Instruction Memorandum WY-85-259

Oil and Gas Lease Stipulations
March, 1985

2. WILDLIFE STIPULATION

a. To protect important big game ungulate winter habitat, drilling and other surface disturbing activity will not be allowed during the period from November 15 to April 30 within certain areas encompassed by this lease. The same criteria applies to elk calving areas from the period of May 1 to June 30. This limitation does not apply to maintenance and operation of producing wells. Modifications to this limitation in any year may be approved in writing by the Authorized Officer.

b. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, drilling and other surface disturbing activity will not be allowed during the period from February 1 to July 31 within certain areas encompassed by this lease. This limitation does not apply to maintenance and operation of producing wells. Modifications to this limitation in any year may be approved in writing by the Authorized Officer.

c. No surface occupancy will be allowed on that portion of the lease within the area (legal description) for the purpose of protecting (e.g., sage/sharp-tailed grouse strutting, and/or other species activity) habitat. Modifications to this limitation in any year may be approved in writing by the Authorized Officer.

GUIDANCE

The WILDLIFE STIPULATION is intended to provide two basic types of protection, seasonal restriction (and b) and no surface occupancy (c). Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be refined as necessary based upon current biological data at the time the APD is processed. It should eventually become a condition for approval in the application for Permit to Drill.

The seasonal restriction section of the stipulation identified three groups of species and delineates two similar timeframe restrictions. These two restrictions are big game ungulate and raptors/grouse. The big game ungulates including elk, moose, deer, antelope, and bighorn sheep all require protection of crucial winter range between November 15 and April 30. Raptors including eagles, accipiters, falcons, buteos, osprey, ferruginous hawks, burrowing owls, and sage and sharp-tailed grouse all require nesting protection during periods between February 1 and July 31.

The no surface occupancy section of the stipulation is intended for protection of unique wildlife and wildlife habitat values (e.g., sage grouse strutting grounds, known threatened and endangered species habitat, etc.) which cannot be protected using seasons restrictions.

W-1.2-3

Apply where appropriate the following mitigation measures developed from the 1978 oil and gas environmental assessment and subsequent decision record dated 1/26/81 to assure surface protection and to minimize resource use conflicts.

12. Any proposed crossing by equipment of perennial streams must assure protection of the stream channel and fisheries habitat.

13. Road culverts on fishery streams will be designed and installed to allow fish passage.

14. To reduce the chances of earth slides entering streams, avoid unstable areas. Steep slopes should be not be overloaded with sidecast. Special construction practices such as end hauling, fill compaction and extra drainage should be used when crossing unstable areas. Culverts should be maintained and cleaned to prevent plugging during and after heavy rainfall or snowmelt. Denuded drainage banks resulting from construction should be replanted with grasses, forbs and shrubs.

18. Vegetation rehabilitation in game bird habitat should include seeding of important food cover vegetation to satisfy the needs of sage grouse, chukar partridge and other species where appropriate.

28. Precautions should be taken to assure surface waters are protected from accidental discharge of hazardous materials or oil spills to maintain waterfowl, shore birds and wildlife habitat as well as maintaining quality wildlife and livestock drinking waters.

30. Minimize new road construction on big game ranges by using existing roads. Proposed roads should be located to avoided important habitat areas.

31. New powerline construction must meet raptor protection standards. Old powerlines not conforming to raptor protection standards will be modified in areas where raptor losses are occurring.

4. Continue interdisciplinary review of oil and gas activities proposals to assure potential conflicts are identified and appropriate mitigation measures are taken.

Forest Products

FP-1.1

Accept the MFP-1 Recommendation with specified management practices.

1. Offer for sale approximately 600 MBF of forest products per year from he productive forest land in the planning unit (on Step 3 overlay 43A3). This should be undertaken for the next 10 years as indicated by sustained yield figures generated from the extensive and intensive inventories.

2. Timber sales will follow these "Timber Management Guidelines."

   A. Preliminary reconnaissance should be made of all prospective sales in order to determine suitability for harvest from a land status and silvicultural standpoint. In addition, the technical, economic and environmental feasibility of the proposed sale should be evaluated.

   I. Stream protection measures will be developed during the planning stage for each sale. Skidding down or across any stream channel should not be permitted and a buffer strip of at least 50 feet on each side should be established.

   J. Terrestrial and aquatic studies should be part of all timber sale planning in order to provide data and to predict significant habitat changes which would affect wildlife and fisheries resources. Identify and plan protection for habitat of threatened or endangered species.

   K. Identify and protect calving grounds, strutting grounds, migration routes and other crucial habitat in order to minimize the impact on animals and birds. Areas or brush, hardwoods or sparse stands should be reserved for wildlife. Likewise, snags and other dead or dying trees should be reserved when necessary to protect and benefit wildlife use.

2. Road Planning

   B. Logging roads will be located on moderate sideslope (10-30%) wherever possible. When sidecasting will cover the downslope soil with rock and subsoil incapable of supporting vegetative growth, require end hauling of waste material to areas of more moderate topography. If a streamside location or crossing is necessary, stipulations must be developed which will minimize the risk of erosion and siltation. All permanent roads and stream crossings shall be located and designed in advance of the sale.

C. Temporary roads shall be outsloped or provided with sufficient waterbars or culverts to prevent erosion. All temporary roads shall be properly drained and rehabilitated at the conclusion of operations.

D. Consider the effect of accessibility and human disturbance on animals and birds in road locations. In planning entry into wildlife areas, consider additional use which might result from off-road vehicles. Leave a screening buffer strip along heavy use roads to provide escape routes for wildlife.

3. Specific Timber Management Practices to be followed in all timber harvest activities:

A. General

1. The development, implementation and updating of Forest Management Plans (FMPs) will be closely coordinated with watershed, wildlife and recreation activities to resolve conflicts, identify appropriate constraints or considerations to be placed on timber harvest and management.

2. Timber sale location, layout and schedule will be closely coordinated with watershed, wildlife and recreation activities to resolve conflicts, identify constraints and modifications or additions that will optimize benefits to be derived from timber harvest.

B. To Protect Watershed Values:

1. Mechanical treatments should be done under the following constraints because of the high erosion potential:

   a. All surface disturbance should be minimized
   b. Limit logging access to existing roads whenever possible.
   c. Design surface disturbing activities with mitigation of erosion in mind.

   d. Rehabilitate disturbed areas sequentially and as soon as possible following the disturbance.

2. Clearcutting should be done only for the control of disease or insect infestation.

3. Maintain an undisturbed vegetative buffer zone along streamsides and drainages.

D. To Develop, Protect and Enhance a Diversity of Wildlife, Crucial Wildlife Habitat in Forest Management and Development:

1. Allow no clearcuts wider than 300 years in any direction. This limits the maximum size to approximately 15 acres.

2. Limit most timber harvesting activities to the dates June 1 through November 1 each year. Exceptions will include areas under Timber Contract Sales. Fuelwood, post and pole sales will be shut down two weeks prior to and through the end of big game hunting seasons.

3. Slash disposal should be considered on a case-by-case basis with emphasis placed on wildlife needs as well as forest regeneration.

4. Broadcast burning should be used as a management tool to increase forage production following timber sales.

5. Do not cut trees or snags that provide important habitat for cavity/snag nesting wildlife species. The area wildlife personnel will identify trees important to wildlife.

6. A corridor of timber at least one site distance (distance at which 90% of an animal is hidden from view by cover) from the road, between clearcut areas, parks, timber wetlands and wallows will normally be left standing to maintain wildlife escape cover.

7. Soil and vegetation disturbance will be held to a minimum so that natural forest regeneration will continue.

8. Curtail the proliferation of new roads and close specified roads as problems arise. Spur roads into timber stands will be closed following timber related activities to cut down human activity in logged areas. After logging operations, spur roads will be waterbarred and seeded with wildlife preferred grasses, forbs and shrub mixture.

9. Provide buffer zones between timber harvest areas and streams to cut down sediment into stream fisheries.

10. Plant forb, shrub and grass species that are preferred wildlife food and cover species in clearcut areas.

11. Confine or unitize timber harvest, post and pole cutting activities, etc. to only a few timber stands at any given time to cut down the conflicts between human activity and wildlife.

12. Protect forest plantings by fencing livestock out. Place poles atop fences in timber areas to prevent big game damage to the fences as well as big game animals becoming entangled in the fences.

FP-2.2

2. Advertised sale for fuelwood will be set up and conducted under the "Timber Management Guidelines for Timber Sales" and "Specific Timber Management Practices" outlined in MU Recommendation FP-1.1 as applicable.

FP-3.3

1. Construct fences to exclude livestock where necessary to protect seedling reestablishment and aspen stand improvement.

   a. Fences will be barbed wire fence constructed to a 38" height with a pole placed atop the fence or a 38" height pole fence.

   b. Protection fences will be removed when it has been determined the fences are no longer needed.

FP-3.4

3. Preferred wildlife habitat grass, forb and shrub species will be seeded in clearcut areas only where it is determined that such plantings or species will not interfere with timber regeneration.

FP-4.1

1. No firewood (cottonwood trees including dead and down material) will be sold or harvested from desert drainages in the Grass Creek Resource ARea.

Range Management

RM-3.1

2. Make specific forage allocations to livestock, wildlife and wild horses when the estimated grazing capacity is established.

6. Long-term adjustments will be determined by actual use, utilization, climate and condition and trend studies. Condition and trend studies will be initiated on a priority basis. Corresponding wildlife habitat and watershed studies will be conducted with range studies where needed,

7. Adjustments will be implemented as follows:

   A. Prior to establishment of the estimated grazing capacity, livestock use will be permitted as currently authorized; wildlife use will be considered that established by the Wyoming Game and Fish Department Strategic Plan, and wild horse use will be established at 100 wild horses long-term average for the Fifteenmile Wild Horse Management Area.

B. Upon establishment of the estimated grazing capacity for an allotment, the forage will be allocated between livestock and wildlife. In the Fifteenmile Wild Horse Area forage will first be allocated for the wild horses and the balance will be allocated between livestock and wildlife.

2. No livestock forage will be allocated in the fragile alpine areas above 10,000 feet elevation.

RM-1.2

3. The development, implementation and updating of AMPs will be closely coordinated with watershed and wildlife activities to resolve conflicts and identify appropriate constraints to be placed on livestock grazing. Special attention will be focused on wetlands and riparian areas.

4. Constraints that will be addressed in AMP development include:

A. Upper Owl Creek Area

1) Grazing systems will provide complete rest on riparian zones at least one year in three.

2) Defer grazing until peak of flowering on key riparian species two years in three.

3) If the grazing system does not improve the channel habitat and riparian (zones) vegetation then the zones will be fenced to exclude livestock grazing.

4) Forage utilization will be limited to 50% of the current year's growth to ensure adequate vegetation cover remains for watershed protection.

C. Where wetland wildlife habitat objectives cannot be met with grazing system implementation, the more important wetland areas will be fenced to protect and enhance the habitat values.

D. Where new seedings, plantings, or land treatment practices are planned, provisions for deferment or resting following the treatment will be included.

E. Salting and mineral supplements will be located outside the wetlands and riparian areas and a minimum of 400 yards from water.

F. Livestock grazing will be deferred on specifically identified elk calving areas until July 1.

G. Develop grazing systems that provide for:

1) Deferred areas on primary elk spring range and primary antelope and deer fawning areas.

2) Deferred or rest pastures in elk breeding areas for the breeding period.

3) Rest pastures in elk winter areas.

4) Provide at least one rest pasture in allotments located in important big game areas.

H. Give consideration where practical to:

1) Deferring livestock grazing in identified blue grouse nesting and brood areas.

2) Allowing only winter grazing in identified partridge habitat where bluebunch wheatgrass if predominant.

3) Changing class of livestock from sheep to cattle in allotments where there is crucial winter antelope habitat.

J. Do not allow livestock waters to be developed in crucial elk, deer and antelope winter areas.

RM-3.3

3. The design and location of range improvements will be closely coordinated with the watershed, wildlife and recreation activities to resolve conflicts, identify constraints and modifications or additions that will optimize the benefits to be derived from the improvement.

4. Livestock water development and design will where feasible:

A. Address development of islands in stockwater reservoirs for waterfowl.

B. Address fencing reservoirs and piping water to troughs for livestock to enhance riparian vegetation.

C. Consider designing reservoirs for fisheries where sites have potential.

D. Provide that water be available for wildlife during the livestock grazing period and when livestock are not in the area.

E. Provide that overflow areas on spring developments be fenced.

F. Provide that drip pipes be located along pipelines to establish succulent vegetation areas - these areas should be fenced.

G. Provide that water troughs be partially buried, equipped with bird ladders, and partially covered to cut evaporation loss.

H. Consider designs that will provide open water in wildlife and wild horse areas during winter periods.

5. Fence development and design will where feasible:

A. Require that interior pasture fences be limited to standard 3-wire barbed wire fences, not to exceed 38" high.

B. Require that allotment boundary fence be limited to standard 4-wire barbed wire fences, not to exceed 38" high.

C. Require that wetland or riparian exclosure fences be limited to standard 4-wire barbed wire fences, not to exceed 38" high.

D. Exceptions may be allowed where sheep are grazing in adjacent areas - then 26" net wire with one barbed wire above could be allowed with total height not to exceed 38", but in no case will new net wire fences be allowed on antelope and deer travel routes and critical habitat areas.

E. Require poles on fences located in timber in elk areas not to exceed 38" high.

F. Avoid fences on steep slopes where big game travel.

6. Land Treatment implementation and design will:

A. Require complete rest the first year following treatment and deferment through seed ripe on key species the second year following treatment as a minimum.

B. Require that vegetation manipulation treatment (sagebrush removal) conform to wildlife Addendum No. 2 (attached).

C. The use of pesticides and herbicides will be closely supervised to ensure compliance with regulations and to ensure protection of wildlife species.

11. When range improvements are proposed in areas known or suspected to be inhabited by threatened or endangered species, the BLM will conduct consultation with the U.S. Fish and Wildlife Service under section 7 of the Endangered Species Act of 1973.

12. Where existing fences interfere with free movement of wildlife, the fences will be modified to standards to allow free movement of wildlife.

Watershed

W-1.1

Livestock grazing will be managed to reestablish vegetative cover on the watersheds and riparian zones in the Upper Owl Creek drainages:

1. Allocate forage in strict compliance with established range suitability criteria.

2. Implement grazing systems that provide complete rest on riparian zones at least one year in three and defer grazing until peak of flowering on key riparian species two years in there; if this is not successful, exclude livestock by fencing.

3. Limit livestock and big game wildlife forage utilization to 50 percent of the current years plant production to ensure adequate vegetation cover remains for watershed protection.

W1.2

Mechanical activities in the Upper Owl Creek area should be done under the following constraints:

1. All surface disturbance should be minimized.

2. Limit road building, logging and energy exploration to existing improved roads whenever possible.

3. Design surface disturbing activities with mitigation of erosion in mind.

4. Rehabilitate disturbed areas sequentially and as soon as possible following the disturbance.

5. Limit off-road vehicle travel to existing roads and trails.

W-2.1

Livestock grazing will be managed to reestablish vegetative cover on the watershed and riparian zones in allotments in the "I" category.

A. Allocate livestock forage in strict compliance with established range suitability criteria.

B. Implement grazing systems that will allow important (key) watershed plant species to regain vigor, produce seed and establish new plants.

C. Riparian areas that do not adequately recover under grazing management will be fenced to exclude livestock.

D. Livestock and big game wildlife forage utilization will not exceed 50 percent of the current years plant production to ensure adequate vegetation cover remains for watershed protection.

W-2.2

Following interdisciplinary review and benefit cost analyses, mechanically control head cutting, gully erosion and sheet erosion and reduce sediment yield using the following means as soil and topography make them appropriate.

1. Sediment basins.
2. Contour furrows on the deep soils.
3. Terraces on steeply sloping soils.
4. Diversion dikes around head walls.
5. Drop structures.
6. Water spreaders.
7. Ground cover increases by drilling native species.
8. Fencing of alternate one mile reaches of the valley fill to increase riparian vegetation for streambank stabilization.
9. Brush control on deep soils.
10. Limit road building and confine vehicular traffic to existing improved roads whenever possible.

W-3.1

To prevent increased salinity in the Bighorn River and its tributaries:

1. Surface Management

   A. Cody, Thermopolis, and Mowry Shale areas (Area VIII Overlay .36A) produce saline runoff. surface disturbance and runoff should be minimized in this area to prevent transport of soluble salts. Any surface disturbance within the area should be rehabilitated rapidly to inhibit the transport of soluble salts.

   B. Manage Area VIII on Overlay .3A2 in accordance with Recommendation W-1.2.

2. Point Source Management - A significant source of salts in the planning unit arises from oil field discharges.

   A. Recommend that Wyoming DEQ deny permits for new discharges which would increase the salinity of receiving perennial streams.

Recreation Management

R-C-2.1

Allow no surface disturbance or development that would significantly impair the natural character, scenic quality or recreational values on public lands in the Owl Creek area by adopting the following measures until a management plan is completed for the area:

- adopt recommendations R-C-2.2 and 2.3
- Apply standard Oil and Gas Stipulations No. 4 or similarly worded restrictions, on all (newly issued) mineral leases within 1,320 feet of the South Fork, South Fork of North Fork, North Fork of Owl Creek and Rock Creek.

R-C-2.3

Restrict vehicle travel in the Owl Creek area to "Designated Roads and Vehicle Routes" as shown on overlay .47C2a(2) unless written permission is obtained from the Area Manager for a specific use.

R-C-3.1

Allow no surface disturbance or development that would significantly impair the natural character, scenic quality or recreational values of the Red Canyon Creek area by adopting the following measures:

- Adopt recommendations R-C-3.2 and 3.3.
- Apply standard Oil and Gas Stipulation No. 4, or similarly worded restrictions, on all (newly issued) mineral leases within 2,640 feet of the Red Canyon Creek canyon rim. Similar restrictions will apply to all locatable mineral claims with the adoption of appropriate surface management regulations.
- Apply standard Oil and Gas Lease Stipulation No. 6 or similarly worded restrictions, on all (newly issued) mineral leases, on slopes over 20 percent.
- Restrict vehicle travel in the Red Canyon Creek area to "Designated Roads and Vehicle routes" as shown on overlay .47C2a(2) unless written permission is obtained from the Area Manager for a specific use.

R-C-4.2

Adopt an off-road vehicle designation of "Limited to Existing Roads and Vehicle Routes" for all public lands in the planning unit, except as specifically recommended otherwise in the following recommendations and shown on Overlay .47C2a(2):

R-C-1.4; 2.3; 3.3; 4.3; 6.1; 7.6 and 7.8

R-G-7.1

Develop and maintain a systematic visitor use surveillance and management to accomplish the following:

- — Monitor recreation use and use-related problems, including use on the Bighorn River and adjacent public land tracts.
- — Prevent the posting or other illegal restriction of use of public lands for hunting, fishing, sightseeing, and other recreational activities.
- — Provide an obvious presence of BLM personnel in the field in areas and during seasons of high use to discourage misuse of public lands and facilities, and to improve the public image of the Bureau and its recreation management program.

R-G-7.2

Secure legal public access on routes shown on Overlay .47C2a(3) through the acquisition of easements or other legal agreements.

R-G-7.12

Protect and enhance the recreation resource and values associated with the Absaroka Foothills by adopting the following measures:

1. Assign a Visual Resource Management Class III to the Absaroka foothills area (Overlay .47C2a(1).
2. Apply standard Oil and Gas Lease Stipulation No. 2 or similarly worded restrictions, on all newly issued oil and gas and other mineral leases visible from the Grass Creek Road (BLM Transportation Plan Route No. 1315) and the Enos Creek Road (Route No. 1303). Allow no mineral material sale or mineral claim development in areas visible from these routes.
3. Apply standard Oil and Gas Lease Stipulation No. 6 or similarly worded restrictions on all newly issued oil and gas and other mineral leases on slopes greater than 20 percent.
4. Adopt an off-road vehicle designation of "Limited to Existing Road and Vehicle Routes" (as defined in Wyoming's Off-Road Vehicle Designation Policy) for the entire Absaroka foothills area until more detailed resource data can be compiled to identify the need for alternative designation in specific areas.
7. Develop a comprehensive plan for the management and protection of recreation resource associated with the Absaroka foothills area.

Recreation/Visual Resource Management (R-D)

Retain the pristine condition of the Owl Creek Canyon. This will require the following actions:

1. Joint management of the canyon with the Bureau of Indian Affairs.
2. Recommend the Water and Power Resources SErvices withdrawal be revoked.
4. Withdraw all lands in the SQRU M-13 from mineral entry.
5. Apply "no surface occupancy" stipulations for oil and gas leasing.

APPENDIX C

C-1 EXCERPTS FROM A STRATEGIC PLAN FOR THE COMPREHENSIVE MANAGEMENT OF WILDLIFE IN WYOMING, 1984-1989 OBJECTIVES, GOALS AND RECOMMENDATIONS

C-2 WYOMING GAME AND FISH DEPARTMENT 1985-1989 STRATEGIC PLAN HERD MANAGEMENT OBJECTIVES BY DATA ANALYSIS UNIT (DAU) FOR AREAS INCLUDING THE ABSAROKA FRONT HMP AREA

APPENDIX C-1

EXCERPTS FROM
A STRATEGIC PLAN FOR THE COMPREHENSIVE MANAGEMENT OF WILDLIFE IN WYOMING, 1984-1989 and 1984-1989 OBJECTIVES, GOALS AND RECOMMENDATIONS

The 1984-1989 Strategic Plan of Wyoming Game and Fish Department (WG&FD) contains numerous references that support efforts proposed in the Absaroka Front RMP. The following excerpts that apply include:

Wildlife found in Wyoming and managed by the Department includes approximately 100 species of mammals, 322 species of birds, 78 species of fish, 12 species of amphibians, 23 species of reptiles, and an undetermined number of mollusk and crustacean species.

Sportsmen spent an estimated 5,460,227 days hunting and fishing in the state during 1982 and contributed approximately $223,034,619 to the state's economy. By 1988, hunting and fishing participation is expected to exceed 7,000,000 days, and hunting and fishing expenditures should exceed $300,000,000 (in 1982 dollars).

In addition to hunting and fishing, some species of Wyoming's wildlife resource are subject to commercial harvest in the form of trapping or commercial fishing.

Also, wildlife is widely utilized in such nonconsumptive endeavors as observation and photography. A national survey conducted during 1980 indicate that these activities resulted in over 1,029,320 days of recreation and $24,400,000 in expenditures throughout the state for that year.

> These totals (1,029,320 recreation days; $24,400,000 in expenditures) underscore the importance of wildlife resources, both aesthetically and economically, to the state of Wyoming. Their conservation and management is a responsibility of awesome magnitude and great privilege. In this context, it is the goal of the Wyoming Game and Fish Department to:
>
> ...manage all Wyoming wildlife and, in cooperation with private landowners and public land management agencies, manage their habitats in such a manner that all populations of native wildlife species maintain density and distribution consistent with the welfare of the resource, which will provide optimum sustained recreational, scientific, educational, aesthetic and economic benefits to the public.

7. Coordinate surveys and monitoring with other agencies conducting similar work.

8. Develop programs to provide access to areas for nonconsumptive users to view wildlife in their habitat under natural conditions and utilize these areas to their maximum information and education potential.

9. Develop and implement methods whereby recreational opportunity can be provided to more people while still maintaining the quality and diversity of wildlife-related recreation.

10. Work for better Department-public-landowner relations in an effort to increase access on and across private lands.

11. Enter into cooperative agreements with other recreation agencies in order to coordinate various types of recreational uses to provide optimum public benefits.

12. Enter into cooperative agreements providing for access to private, municipal and industrial lands and waters in exchange for Departmental services.

13. Increase awareness of available public land by encouraging proper marking and mapping.

Numerous statements and goals related to [illegible] efforts for fish, big game, small game, waterfowl, game birds and nongame are notes in the Strategic Plan. Some of these are as follows:

Big Game - 1984-1989 Strategic Plan

Antelope
1. Maintain a wintering population of 239,150
2. Maintain 70,806 square miles of occupied habitat

Elk
1. Maintain a wintering population of 68,020 elk
2. Maintain 28,546 square miles of occupied habitat

Mule Deer
1. Maintain a wintering population of 354,620
2. Maintain 76,998 square miles of occupied habitat

Whitetail Deer
1. Maintain a winter population of 60,000
2. Maintain 8,192 square miles of occupied habitat

Moose
1. Maintain a wintering population of 7,950
2. Maintain 8,343 square miles of occupied habitat

Bighorn Sheep
1. Maintain a winter population of 7,180
2. Maintain at least 9,000 square miles of occupied habitat

Black Bear
1. Maintain a wintering population of 2,300
2. Maintain 9,700 square miles of black bear habitat

Grizzly Bear

1. Maintain a wintering population of 125
2. Maintain at least 1900 square miles of occupied habitat

1984-1989 Strategic Plan

Upland Game Birds, Waterfowl, Small Game

1. Determine the extent of pheasant, chukar, hungarian partridge, mourning dove, turkey, blue grouse, ruffed grouse, sage grouse, goose and duck habitat in Wyoming.

1984-1989 Strategic Plan

Mollusk/Crustacean

1. Identify the species of mollusks and crustaceans found in Wyoming and determine their distribution.
2. Identify and protect habitats containing rare species of mollusks and crustaceans.

APPENDIX C-2

WYOMING GAME AND FISH DEPARTMENT 1985-1989 STRATEGIC PLAN

HERD MANAGEMENT OBJECTIVES BY DATA ANALYSIS UNIT (DAU) INCLUDING THOSE AREAS WITHIN THE ABSAROKA FRONT RMP AREA

Species	Data Analysis Unit	Post Hunting Season Population Goal
Elk	Gooseberry DAU (14) Hunt Area 63 Wood River/ Gooseberry Creek Hunt Area 64 Owl Creek	1,800
	Includes Hunt Area 62 which does not lie in the RMP area.	
Mule Deer	Upper Owl Creek/Cottonwood Hunt Area 119 Anchor Hunt Area 120 Hamilton Dome	4,500
	Meeteetse DAU (13) Hunt Area 117 South Greybull River Hunt Area 118 Upper Gooseberry Cr.	7,300
	Includes Hunt Area 116 which does not lie in the RMP area.	
Antelope	Basin DAU Hunt Area 110 Hunt Area 83	3,300
	Includes Hunt Area 77 which does not lie in the RMP area.	
Moose	Greybull-Owl Creek (9)	115
Bighorn Sheep	Franc's Peak (5)	1,000

APPENDIX D

SUPPLEMENTAL MEMORANDUM OF UNDERSTANDING

BETWEEN BLM, USFS AND WG&FD

For Sikes Act Preparation and Implementation

# of the Absaroka Front HMP

Supplemental
Memorandum of Understanding
Between

The Bureau of Land Management
U.S. Department of the Interior
Worland District Office

The Forest Service
U.S. Department of Agriculture
Shoshone National Forest

and

The Wyoming Game and Fish Department
State of Wyoming
Cody District Office

for

Sikes Act

Preparation and Implementation
of the
Absaroka Front Wildlife Habitat
Management Plan

I. PURPOSE

It is the purpose of this Supplemental Memorandum of Understanding (MOU) to agree to the concept, define working relationships, coordination, and cooperation procedures for preparation and implementation of Sikes Act wildlife programs between the U.S. Bureau of Land Management (Worland District), hereinafter referred to as the BLM; U.S. Forest Service (Shoshone National Forest), hereinafter referred to as FS; and the Wyoming Game and Fish Department (Cody District), hereinafter referred to as the WG&F. Nothing in this MOU shall be considered to financially obligate any party.

II. OBJECTIVES

The BLM, FS, and WG&F wish to initiate and expedite cooperative development of a Habitat Management Plan (HMP) for the east front of the Absaroka Mountain in the Big Horn Basin (referred to as the Absaroka Front) which will qualify for funding under PL 93-452 (the Sikes Act) during fiscal year 1985 and thereafter.

Implementation (including maintenance) of the Plan will continue for an indefinite period of time in the future.

Preparation of this HMP will utilize an ecosystem management approach with special emphasis placed on wildlife and plant species and watersheds of high State and Federal management priority.

This HMP will be developed to include, but is not limited to, consideration of the following objectives:

A. "Manage food, cover, and water resources and watershed conditions to meet requirements for wildlife in accordance with mutual agency planning decisions relative to wildlife populations and/or WG&F Strategic Plan and national recovery plan goals on public lands for priority wildlife species."

   This objective will be accomplished through incorporation of wildlife needs into other activity functions (i.e., range, land management, timber management, minerals and energy development, recreation, and watershed management); various vegetative manipulation projects; pursuit of mutually agreed upon land tenure adjustments, easements, or cooperative management efforts; support research to fill data gaps; and development and maintenance of water sources and associated riparian vegetation. Also, as a part of this objective, recognition of land users for outstanding contributions to habitat development and conservation efforts, and develop from land use ranks a volunteer work force and alternate funding source for various project work.

B. "Eliminate and/or minimize effects of man caused disruption and restriction to wildlife migration, movement, use of habitat (living space), and watershed degradation as necessary to meet mutual agency planning decisions and/or WG&F Strategic Plan goals."

This will be accomplished by construction, modification, or removal of livestock fences, road use restrictions, and human use restrictions.

C. "Restore priority species habitat to excellent condition to meet mutual agency planning decisions and/or WG&F Strategic Plan goals where such species and habitat potential to meet goals exist (i.e., Bighorn Sheep)."

Such cooperative efforts would involve feasibility for supplemental transplants, habitat analysis, and cooperation with watershed and range management programs.

D. Existing reservoirs, stream habitat and watershed condition management objectives for the BLM portions of Absaroka Front HMP boundaries will become considered a part of this HMP and may presently be referenced within the existing Grass Creek Resource Area (GCRA) Reservoir HMP and the GCRA Stream HMP.

These efforts will consist of protection, development, and maintenance of wetland habitats. Fisheries as well as waterfowl and terrestrial wildlife are of primary concern in wetland areas.

III. AUTHORITY

This MOU supplements and is pursuant to the following:

A. U.S. Bureau of Land Management (BLM)

1. Memorandum of Understanding between the Wyoming Game and Fish Department and the U.S. Bureau of Land Management. Master Memorandum dated August 19, 1976 (Appendix 1 - Sikes Act Program).

2. State agreement between Region II and Region IV, Forest Service - USDA, and the Wyoming State Office, Bureau of Land Management - USDI dated November 1, 1974.

3. Memorandum of Understanding and Resource Planning Agreement between U.S. Bureau of Land Management, U.S. Soil Conservation Service, and U.S. Forest Service dated January 21, 1975.

4. The Sikes Act of 1974, Title II, PL 93-452, as amended (16 U.S.C. 670, et. seq.).

5. The Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701, et. seq.).

B. U.S. Forest Service (FS)

1. Master Memorandum of Understanding between the Game and Fish Commission, State of Wyoming, and U.S. Forest Service, USDA, dated February 9, 1972.

2. National Forest Management Planning Act of 1976.

3. *Comprehensive Wildlife Management Plan for National Forest System Lands in Wyoming* which is also a Sikes Act agreement.

C. Wyoming Game and Fish Department (WG&F)

1. State of Wyoming Statutes (1979): Title 23, as amended.

2. Wyoming Game and Fish Commission directives to the director of the Department.

IV. DEFINITIONS AND DESCRIPTIONS

A. Habitat Management Plan Area - This MOU specifically covers the portion of the Grass Creek Resource Area (BLM) lying north of the northern boundary of the Wind River Indian Reservation, west of the Bighorn River from the Reservation boundary north to Thermopolis, and west of Highway 120 between Thermopolis and Meeteetse, south and southeast of the Greybull and Wood rivers and east of the Shoshone Forest boundary. The portion of the Meeteetse Ranger District considered in this HMP is bordered on the east by the Grass Creek Resource Area, on the northwest by the Wood River and Middle Fork of Wood River, and on the southwest by the Wood-Wind River divide and South Fork of Owl Creek. The area has been divided into six Habitat Analysis Blocks (HABs) based on the seasonal use of the areas by discrete sub units of the major migratory big game species populations.

B. Ecosystem Management - It is the concept of first identifying biotic and abiotic resources within a given ecosystem area and then applying appropriate management to minimize man induced disturbances. Ecosystem management addresses the food, cover, water, and living space habitat requirements of fish and wildlife, watershed conditions, and the proper mixture of these requirements to maintain or increase species diversity as well as the desired population levels.

C. Priority Species and Habitats - These are the fish, wildlife, plant species and habitats that have been identified in the strategic plan, national recovery plans, or agency land use plans, or through special studies as having special significance for management. These may include endangered (Rocky Mountain Wolf, Black-Footed Ferret), threatened (Grizzly Bear), or sensitive species, species of high economic or recreational value (elk, bighorn sheep, mule deer) and aquatic or wetland/ riparian habitats. Also included are individuals or populations of animals and/or plants that are recognized as significant for one or more reasons, such as density, diversity, size, disjunct occurrences, or age (i.e., ponderosa pine outliers).

D. Wildlife - All species of animal organisms, both native and exotic, normally found in a wild state. Horses and burros are excluded.

E. Wildlife/Plant Habitat - All elements of a wild organisms environment which the organism needs to normally and naturally complete its life cycle (i.e., to maintain a healthy life and perpetuate its population through normal reproduction). These elements include, but are not limited to: nutrition, cover, water, and living space, in the amounts, qualities, and locations which the species needs to complete its life cycle and maintain viable population levels.

V. POINTS OF AGREEMENT/OPERATING PROCEDURES

A. BLM agrees to:

1. Cooperatively develop a draft Absaroka Front Wildlife Habitat Management Plan and environmental assessment during FY 85, which complies with the objectives listed in this MOU.

2. Submit the draft HMP and EA to the following for review and comments:

District Game Supervisor (WG&F)
Area Fisheries Supervisor (WG&F)
Shoshone Forest Supervisor (USFS)
District Manager (BLM)

Modifications will be made pursuant to this review.

3. Finalize the plan and make any modifications deemed necessary to establish its consistency with NEPA, BLM planning constraints, USFS planning constraints, and any other appropriate WG&F or BLM regulations or policies.

B. USFS agrees to:

1. Cooperatively develop portions of the draft relative to USFS lands.

2. Review the draft HMP and EA and make coordinated suggestions for changes that are necessary with FS policy.

3. Actively promote and support the HMP in contacts and dealings with the public and public land users.

4. Participate, to the extent possible, in the implementation of projects and investigations on the HMP lands administered by the USFS as planning and implementation schedules are completed.

C. The Wyoming Game and Fish Department agrees to:

1. Review the draft HMP and EA and make changes that are necessary for conformance with WG&F policy.

2. Actively promote and support the HMP in contacts and dealings with the public and public land users.

3. Participate, to the extent possible, in the implementation of projects and investigations within the HMP.

4. Provide current "Strategic Plan" information relating to "desired numbers" of big game and game birds and fish.

D. The BLM, USFS, and WG&F mutually agree to:

1. Provide input to the draft HMP and EA from specialists within their respective agencies as appropriate (i.e., waterfowl specialists, realty specialists, recreation specialists, fisheries biologist, non-game bird biologist, hydrologists, etc.).

VI. CONSTRAINTS AND GENERAL GUIDELINES

A. This MOU is prepared, approved, and implemented subject to Federal Laws and Regulations of the United States, those governing the Department of the Interior, Bureau of Land Management, Department of Agriculture, U.S. Forest Service, and State Laws and Regulations for Wyoming and the Wyoming Game and Fish Department.

B. Nothing within this MOU shall be considered to be financially obligating to any party, or shall it be limiting to any respective Federal or State agency's policies for management of their appropriate lands, waters, and other resources.

VII. PROVISION FOR REVIEW, MODIFICATION, AND/OR CANCELLATION

A. This MOU shall be reviewed annually by all parties to assure its legality, validity, and applicability to the Sikes Act program(s) in question. It may be modified or cancelled by any party upon thirty (30) days written notice to the other parties.

B. At least once a year prior to May 1, representatives of each agency will review the HMP to determine its status and to evaluate operating efficiency, progress, need for HMP modifications, and to plan projects for the next budget year.

VIII. APPROVAL

We, the undersigned designated officials, do hereby enter into this MOU for Sikes Act Implementation as authorized representatives for our respective agencies. This MOU shall become effective on the date when last signed and shall remain in effect indefinitely hereafter, or until subsequently modified or cancelled as noted under Section VII, above.

U.S. FOREST SERVICE

George F. Gehrman 1/17/85
for Forest Supervisor Date

3/14/85
for Regional Forester Date

WYOMING GAME AND FISH DEPARTMENT

Louis S. Pechacek 1-18-85
Area Supervisor (Fisheries) Date

Terry Killough 1-21-85
District Supervisor (Game) Date

W. Donald Dexter 2/1/85
Department Director Date

BUREAU OF LAND MANAGEMENT

1/17/85
District Manager Date

Hillary A. Oden 3/4/85
State Director Date

APPENDIX E

STANDARD HABITAT TYPES OF THE WORLAND DISTRICT (BLM)

APPENDIX E

STANDARD HABITAT TYPES OF THE WORLAND DISTRICT

(These apply to Public Lands (BLM) only)

Standard habitat types have been developed for the Worland District to be used as a "baseline", or starting point, for establishing wildlife inventory and study designs and as a cataloging basis for referencing wildlife information. The standard habitat types have a common informational base (i.e., range sites), and are meant to be used in conjunction with the resource information obtained through other resource evaluations.

The natural terrestrial types outlined herein are based on site vegetation potential (climax) and physiography. Obviously, most of the BLM administered land in the district is in some state of pre-or dis-climax, and therefore, any comprehensive wildlife inventory or planning effort must address these strata (i.e., range condition classes, key browse species, etc.). The study strata are analogous to "standard habitat sties", using the terminology of the BLM Manual 6602. The man-made, or imposed, terrestrial types, and the aquatic types, are indeterminate in the classification scheme and will have to be classified based on existing site conditions as they are encountered on the ground.

STANDARD HABITAT TYPES (WILDLIFE) FOR THE WORLAND DISTRICT*

Standard Habitat Type Name (Dominant Visual Aspect)	FS Habitat Type & SCS Range Site Correlations	Typical Topographic Position	Usual Elevation Regime	Ecological Response to Stress
A. Natural Terrestrial Types				
1. Needleandthread Wheatgrasses (Grassland/Shrub Steppe)	Shallow sandy (5-9") Sandy (5-9") Loamy (5-9") Shallow Loamy (5-9") Shallow Clayey (5-9")	Found on upland sites from low to steep slopes throughout the basin floor and foothills.	3700-6000'	Under grazing pressure, big sagebrush, short grasses and various forbs tend to increase on these areas. *Artemisia tridentata wyomingensis* is most prominent in this type.
2. Needleandthread/Prairie Sandreed (Grassland)	Sands (5-9")	Found in various positions on upland sites throughout the basin floor and foothills.	3700-6000'	Under grazing pressure, mid-grasses become more prevalent on these areas.
3. Nuttall Saltbush/Squirreltail/Birdfoot Sage (Shrub Steppe)	Shale (5-9") Saline Upland (5-9") Shale (10-14") Saline Upland (10-14") Impervious Clay (5-9")	Found on upland sites with various degrees of slope throughout the basin floor and foothills.	3700-7000')	Gardner saltbush, birdfoot sage and woody aster increase on these areas under grazing pressure.
4. Bluebunch Wheatgrass/Indian Ricegrass (Foothill Grassland/Shrub Steppe)	Shallow sandy (10-14") Sandy (10-14") Shallow Loamy (10-14") Loamy (10-14") Shallow Clayey (10-14") Clayey (10-14")	Found on upland sites of various slopes, generally along the periphery of the basin and the mountain foothills.	4500-7000'	Big sagebrush (Artemisia tridentata vaseyana) is the primary increaser in these areas and may dominate the visual aspect where heavy grazing pressure prevails. Mountain mahogany is common on steep, shallow soil slopes in these areas along the west slope of the Bighorns. Occasional juniper and limber pine may also occur here.
5. Columbia Needlegrass/Fescue/Forb (Mountain Grassland/Shrub)	Sandy (15-19") Shallow Sandy (15-19") Shallow Loamy (15-19") Loamy (15-19") Shallow Clay (15-19") Clayey (15-19")	Mountain slopes of various gradients found along the Bighorn, Beartooth, and Absaroka Ranges.	6000-9000'	*Artemisia* spp. (usually *A. t. vaseyana*), rabbitbrush and forbs tends to increase or invade on these areas under heavy grazing pressure.

STANDARD HABITAT TYPES (WILDLIFE) FOR THE WORLAND DISTRICT*

Standard Habitat Type Name (Dominant Visual Aspect)	FS Habitat Type & SCS Range Site Correlations	Typical Topographic Position	Usual Elevation Regime	Ecological Response to Stress
6. Sedge/Hairgrass/Willow (Wet Meadow)	Wetland (5-9") Wetland (10-14") Wetland (15-19") Sub-irrigated (15-19")	Level to nearly level stream bottoms and lowlands with a fairly high watertable.	3700-9000'	Foxtail and low sedges tend to increase on these areas under ecological deterioration. This type could also be classified as aquatic palustrine (type #26).
7. Alkali Sacaton/Basin Wildrye (Salt Flats)	Saline Lowland (5-9") Saline sub-irrigated (5-9") Saline Lowland (10-14") Saline sub-irrigated (10-14")	Level to nearly level stream bottoms and adjacent alluvial terraces in the basin floor and surrounding foothills.	3700-7000	Greasewood and inland saltgrass increase on these areas under heavy grazing pressure, and often dominate the visual aspect of the site. This type could also be classified as aquatic palustrine (type #26) in some cases.
8. Basin Wildrye/Cottonwood (Riparian Shrub/Tree)	Lowland (5-9") Lowland (10-14") Sub-irrigated (10-14") Clayey Overflow (10-14") Overflow (10-14") Overflow (15-19")	Stream banks and adjacent floodplain bottom lands.	3700-9000' in a gradient along streams.	Wild rose, buffaloberry, and sometimes big or silver sage tend to increase on these areas with the advent of heavy grazing. Artemisia tridentata tridentata is the common big sagebrush species found on these sites. This type might also be classified as aquatic palustinre (type #26).
9. Bluebunch Wheatgrass/Needlegrass (Desert Shrub land)	Very Shallow (5-9") Gravelly (5-9") Coarse Upland (5-9")	Steep slopes, terrace breaks, stream outwashes and morraines in the basin floor and lower foothills.	3700-6000'	In a disclimax ecological state big sage (A. t. wyomingensis), mat form type forbs increase and may dominate the visual aspect.
10. Bluebunch Wheatgrass/Sagebrush/Juniper (Foothills Shrub/Woodland)	Gravelly (10-14") Coarse Upland (10-14") Very Shallow (10-14")	Occurs on steep slopes, terrace breaks and stream outwashes in the foothills and mountain toe slopes around the basin.	4500-7000'	Artemisia spp. (usually A. t. vaseyana), juniper and rabbitbrush increase on these sites under stress conditions. Mountain mahogany is prevalent in these areas on steep slopes with shallow soils along the west slope of the Bighorns. Occasional limber pine also occurs on these areas.

STANDARD HABITAT TYPES (WILDLIFE) FOR THE WORLAND DISTRICT*

Standard Habitat Type Name (Dominant Visual Aspect)	FS Habitat Type & SCS Range Site Correlations	Typical Topographic Position	Usual Elevation Regime	Ecological Response to Stress
11. Columbia Needlegrass/ Fescue/Sagebrush/Junipers (Mountain Shrub/Woodland)	Coarse Upland (15-19") Very Shallow (15-19") Shallow Igneous (15-19") Igneous (15-19")	Occurs on steep slopes, outwash morraines and rocky outcrops on the mountain slopes surrounding the basin.	6000-9000'	Artemisia spp. (usually A. t. vaseyana) and juniper increase on these areas and some limber pine may also occur here. Mountain mahogany and ponderosa pine may also be present on the shallower of these sites along the west slope of the Bighorn range.
12. Limber Pine (Foothills Forest)	Generally found on dry shallow or gravelly soils.	Typically found along the mountain toe slopes and adjacent foothills areas.	Typically low to mid-elevation (below 7000') but sometimes occurs at high elevations also.	Limber pine may occur on some sites as an edaphic climax. This type sometimes occurs as a savana-like aspect and is most prominent on the west side of the basin.
13. Ponderosa Pine (Foothills/Forest)	Soils vary for this type, but generally the surface horizons are sandy. This is a dry site forest.	Typical dominant stands of this habitat type occur as low elevation montane and foothills forests.	Usually low to mid-elevation (below 7000').	Ponderosa pine is found almost exclusively on the Bighorn Mountains along the east side of the basin.
14. Douglas Fir (Montane Forest)	Often occurs on soils developed from limestone or dolomite, although it may not be strongly related to parent materials.	Occurs as the characteristic montane forest of the region where favorable soil moisture allows Douglas fir to replace the dry site forests as climax.	Usually 6000-8500' (intermediate elevation) although it may extend to higher elevation on occasion.	Ponderosa pine (in the Bighorns), limber pine, lodgepole pine or quakig aspen may be present as seral or topo-edaphic climaxes in this type. Also Englemann spruce or alpine fir may intergrade at higher elevation.
15. Lodgepole Pine (Montane Forest)	Soils of this type are quite variable, but usually strongly acidic in reaction. Soils often of granitic origin.	Occurs in the montane forest zone where soil moisture is favorable (16+ inches), where sunlight is plentiful and exposed mineral soil exists for regeneration.	Typically from 6000' to timberline.	This type is usually a seral stage to other forest types, but in some locales, it may actually function as the climax. Often occurs as a fire sere (sometimes long-lived.)

STANDARD HABITAT TYPES (WILDLIFE) FOR THE WORLAND DISTRICT*

Standard Habitat Type Name (Dominant Visual Aspect)	FS Habitat Type & SCS Range Site Correlations	Typical Topographic Position	Usual Elevation Regime	Ecological Response to Stress
16. Quaking Aspen (Foothills/Montane Forest)	Normally occurs on moist sites with deep soils.	Occurs in the foothills and montane forest zones with ample soil moisture.	Generally 6000-9000'	Generally grows in small stands and groves, and sometimes s a border along coniferous forest stands. This type sometimes occurs as a seral stage (fire sere) to other forest communities on wet sites.
17. Spruce/Fir (Sub-Alpine Forest)	Soils and substrate vary due to the complexity of this type. Generally, this type could be said cooler sites than the lower montane forests.	Occurs as the high mountain slope forests with edaphic extensions along streams into the lower elevation, graphic aspects and slopes.	7,300-10,000', but "fingers" of this type may extend along streams down	This type is a "complex" of stands of alpine fir and Englemann spruce. The spruce generally prevails on the slightly drier and warmer sites and the alpine fir dominates the cooler, moister sites. Near timberline, this type typically takes on a "krummholz" appearance. Douglas fir and lodgepole pine are often seral at lower elevations.
18. Bluegrass/Sedge/Forb (Sub-Alpine Meadow)	Sub-irrigated (20+"). Wet, cold soils usually of moderate depth. Growing seasons are short and the short frost-free period is a principal limiting factor.	Typically occurs on level to sloping topography of 20% or less along drainage basins. This type often exhibit frost hummocks and usually intergrades with the sub-alpine forest.	Typically 8,300 to 10,000'	Tyis type is characterized by an abundance and great diversity of forbs, cool season grasses and sedges. The dominant vegetation varies from a sedge/willow aspect on moist sites to a grass/forb aspect on the drier areas. This type is very sensitive to external disturbance.
19. Hairgrass/Willow/Sedge (Alpine Tundra)	Wetland (20+"). Soils vary from finely weathered rock to alluvial, coluvial or glacial deposits. The soils are usually rocky and vary in depth from shallow to moderately deep. The climate is characteristically cold and wet.	Occurs along ridge tops, divides, and high altitude plateaus. Slopes vary from nearly level to almost 40%. This type may appear as a frost hummock in wet sites.	Usually 9,500 to 11,000'	This type is typical of a severe climatic site with a low mat-turf appearance in drier sites and some low growth form shrubs (usually willow) at the moister sites. This type is very similar to sub-alpine meadows, but with less vegetative diversity. The sub-alpine meadow and alpine tundra types could be considered gradients of each other. This type is very sensitive to disturbance and secondary succession progresses verv slowly here.

STANDARD HABITAT TYPES (WILDLIFE) FOR THE WORLAND DISTRICT*

Standard Habitat Type Name (Dominant Visual Aspect)	FS Habitat Type & SCS Range Site Correlations	Typical Topographic Position	Usual Elevation Regime	Ecological Response to Stress
20. Barrens				
a. Badlands	Typically dense clay soils (bentonite or shales) with some form of edaphic limitation (poor permeability, high salinity, etc.).	Found at localized sites or as extensively dissected areas throughout the Bighorn Basin.	Usually below 6,000' elevation	Vegetative cover usually very sparse or nonexistent. Existent vegetation is usually a "complex" and most aptly reflects the specific micro-climatic conditions at each site.
b. Scree	Very shallow or no soil development. Gravel, loose rock fragments and rockslides.	Characteristically occurs on steep slopes with a strongly fractured sub-strata. Slopes usually greater than 30°.	Various elevations	Vegetative cover varies or is nonexistent. Where vegetation occurs it is typically a "complex" of invaded plants.
c. Cliffs, rock outcrops and boulder fields.	Primarily areas of bare rock and rock rubble. Very shallow to shallow gravelly soils occur in these areas, where soil development has occured at all.	Occurs on mountain tops, ridges, steep valley sides and cirque basins and alpine plateaus.	Above 8,500'	Where vegetation occurs it is typically invader species from the alpine habitat types. Lichens are dominant in this habitat type.

B. Man-Made, or Imposed, Terrestrial Types

21. Burned Areas (Wildfire or Prescribed)

May occur anywhere throughout the district. The vegetative community existing after a fire may reflect the degree of intensity and/or "age" of the burn and the resulting secondary successions.

22. Artificial Seedings (Croplands and Woody Plantings)

a. Irrigated Crops - Agricultural crops seeded by man and watered by canals, sprinklers, or other artificial means (not naturally sub-irrigated). (Name of the crop must be specifically stated; i.e., alfalfa hay, wheat, barley, corn, sugar beets, soy beans, etc.)

b. Non-Irrigated Crops - Agricultural crops seeded by man and watered by precipitation only. (Name of the crop must be specifically stated; i.e., sweetclover, dryland alfalfa, crested wheatgrass, wheat, barley, oats, etc.)

c. Shelterbelts and Windbreaks

d. Orchards

33. Urban/Industrial

a. Human habitations (cities) and agricultural facilities (i.e., farmsteads, barns, etc.)

b. Industrial facilities (i.e., natural gas and oil treater facilities, refineries, bentonite plants, etc.)

c. Mines/Pits, quarries, dredgings.

d. Waste areas (abandoned disturbance areas, roadsides, cut banks, municipal dumps and landfills, etc.)

C. Aquatic Types

System	Sub-System	Water Regime Modifier	Water Chemistry Modifier		Soil Modifiers	Special Modifiers
			(Salinity)	(pH)		
34. Riverine	a. Upper Perennial	Permanently flooded			Organic soil	Excavated
		Semipermanently flooded	Fresh	Circumneutral	Mineral soil	Impounded
	b. Intermittent	Seasonably flooded	Mixosaline	Alkaline		Diked
		Controlled flooding				Partially drained
						Artificial

35. Lacustrine (Lakes) - Vegetation less than 30% areal coverage; greater than 20 acres in size; may have an active wave-formed or bedrock shoreline on all or part of the boundary; must have 2m of water at the deepest part of the basin during low water periods.

a. Limnetic

b. Littoral

36. Palustrine (Marshes, Potholes) - Wetlands with more than 30% areal coverage of vegetation; less than 20 acres in size; lacks an active wave-formed or bedrock shoreline; less than 2m water depth in the deepest part of the basin at low water. Some palustrine sites might also be classified as natural terrestrial types #6, 7, and 8 (wet meadow, salt flats, and riparian shrub/tree).

Modifiers can be used with any of the system or sub-system components.

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References

1. U.S. Department of Agriculture - Soil Conservation Service. *Range Site Descriptions for the Big Horn Basin - 5-9", 10-14", 15-19", and 20+" Precipitation Zones*. Cheyenne, Wyoming.

2. U.S. Department of Agriculture - Soil Conservation Service. *Grazable Woodland Site Descriptions*. Cheyenne, Wyoming.

3. Morris, M.S., 1972. *The Geographic and Ecological Distribution of Big Sagebrush in Montana*. Proceedings of the 5th Antelope States Workshop. Billings, Montana. Pages 95-101.

4. Cowardin, L.M., F.C. Golet, and E.T. LaRoe. 1977. *Classification of Wetlands and Deep Water Habitats of the United States (An Operational Draft)*. U.S.D.I. - Fish and Wildlife Service. Washington, D.C. 100 pp. Includes the Region 6 Supplemental Key to the Operational Draft by Eugene Hansmann. Denver, Colorado.

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6. South, P. *Pryor Mountain Ecosystems*. U.S.D.A. - Forest Service. Billings, Montana. 201 pp.

7. Pfister, R.D., B.L. Kovalchik, S.F. Arno, and R.C. Presby. 1977. *Forest Habitat Types of Montana*. General Technical Report #INT-34. U.S.D.A. - Forest Service. Intermountain Forest and Range Experiment Station. Ogden, Utah. 174 pp.

8. Hoffman, G.R. and R.R. Alexander. 1976. *Forest Vegetation of the Bighorn Mountains, Wyoming: A Habitat-Type Classification*. Research Paper #RM-170. U.S.D.A. - Forest Service. Rocky Mountain Forest and Range Experiment Station. Fort Collins, Colorado. 38 pp.

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*Standard Habitat Type classifications are based on "potential" (climax) ecotypes on the natural terrestrial sites rather than on existing vegetation occurring at pre- or disclimax seral stages. Special habitat features may occur at localized sites in any or all of the standard habitat types. Man-made, or imposed, terrestrial sites and the aquatic site classifications are based on the current, existing site conditions.

APPENDIX F

EXCERPTS FROM THE THREATENED OR ENDANGERED SPECIES

NATIONAL RECOVERY PLANS

F-1 BLACK FOOTED FERRET RECOVERY PLAN

F-2 AMERICAN PEREGRINE FALCON, ROCKY MOUNTAIN AND SOUTHWEST POPULATION RECOVERY PLAN

F-3 GRIZZLY BEAR RECOVERY PLAN

F-4 NORTHERN ROCKY MOUNTAIN WOLF RECOVERY PLAN (DRAFT)

APPENDIX F-1

BLACK-FOOTED FERRET

RECOVERY PLAN

Mustela nigripes

TECHNICAL REVIEW DRAFT

DRAFT

BLACK-FOOTED FERRET

RECOVERY PLAN

Prepared by the

Black-footed Ferret Recovery Team

Team Members

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Harry Harju	Wyoming Game and Fish Department
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Ronald D. Klataske	National Audubon Society
Dennis L. Lengkeek	South Dakota Department of Game, Fish and Parks
James R. Roseberry	U.S. Bureau of Land Management
Gregory L. Schenbeck	U.S. Forest Service

APPROVED

Date ____________________

U.S. Fish and Wildlife Service ______________________________
Director

DRAFT

Stepdown Outline

Primary Objective - Maintain at least one wild self-sustaining population of black-footed ferrets (BFF) in each state within its former range.

100. Map range of BFF.
    110.* Map original range of BFF.
    120. Map current range of BFF.

200. Determine existing BFF habitat.
    210. Determine distribution of prairie dog towns in each state.
        211. Map and measure prairie dog towns in each state.
        212. Compile measurement data.
    220. Determine BFF habitat other than prairie dog towns.
        221. Conduct research to define BFF habitat other than prairie dog towns.
        222. Map and measure BFF habitat other than prairie dog towns

300. Estimate BFF populations.
    310. Locate BFF populations.
        311. Locate BFF populations utilizing current techniques.
        312. Solicit new BFF sightings from the public.
        313. Refine existing BFF survey techniques and develop new techniques.
        314. Compile records of BFF sightings.
        315. Conduct workshops to explain current techniques for locating BFF.

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320. Periodically inventory BFF populations using current methods and techniques developed under section 313.

321. Inventory wild BFF populations.

322. Inventory introduced BFF populations.

400. Protect BFF populations.

410. Protect existing BFF habitat.

411. Protect habitat on public lands.

411.100. Identify habitat occupied by BFF.

411.200 Manage BFF habitat.

411.210. Develop programs for managing prairie dog towns.

411.220. Survey and evaluate habitat management programs.

411.230. Conduct workshops to explain habitat management program.

411.240. Conduct research on prairie dog ecology.

411.250. Develop prairie dog management techniques.

411.251. Develop techniques for increasing prairie dog populations.

411.252. Develop techniques for control of prairie dog populations with emphasis on approaches that avoid or minimize adverse impacts on BFF.

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411.300. Propose legislation to permit survival of prairie dog towns.

412. Protect habitat on private land.

412.100. Acquire BFF habitat.

412.110. Acquire land in fee title.

412.120. Acquire easements on land.

412.200. Conduct I & E programs stressing importance of BFF habitat on private land.

412.300. Monitor Federal assistance programs.

412.400. Assist in developing plans for habitat management on-private land.

412.500. Propose legislation to permit survival of prairie dog towns on private land.

413. Develop action plan for sylvatic plague outbreaks in prairie dog towns occupied by BFF

420. Manage BFF populations.

421. Protect BFF populations through law enforcement.

421.100. Enforce Convention on International Trade in Endangered Species of Wild Flora and Fauna.

421.200. Enforce Endangered Species Act - Sec. 7 and 9.

421.300. Enforce State laws affecting BFF.

421.400. Conduct I & E program to explain laws protecting BFF.

422. Develop a prototype BFF management plan.

422.100. Determine spatial requirements and mobility of BFF.

422.200. Understand population dynamics of BFF.

422.300. Determine nutritional requirements of BFF.

422.400. Understand interrelationships of BFF with man and his activities.

422.500. Study behavioral characteristics of BFF.

422.600. Study interrelationships of BFF with other vertebrates.

422.700. Study effects of weather on BFF.

422.800. Understand reproduction and development of BFF.

422.900. Study pathology of BFF.

423. Apply prototype BFF management plan to local populations.

430. Conduct I & E program directed at the general public.

500. Restock BFF populations.

510. Establish sources of BFF transplant stock.

511. Capture wild BFF.

512. Produce BFF in captivity.

512.100. Develop propagation techniques.

512.200. Propagate BFF for release.

512.210. Propate pen-reared BFF.

512.220. Propagate field-reared BFF.

520. Introduce transplant stock.

521. Establish priorities for restocking.

522. Establish habitat sites for introduction.

523. Release transplant stock at introduction sites.

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IMPLEMENTATION SCHEDULE BLACK-FOOTED FERRET

General Category (1)	Plan Task (2)	Task # (3)	Priority # (4)	Task Duration (5)	Responsible Agency: FWS Region (6)	Responsible Agency: FWS Program (6a)	Responsible Agency: Other (7)	Fiscal Year Costs (Est.) FY-1 (8)	Fiscal Year Costs (Est.) FY-2	Fiscal Year Costs (Est.) FY-3	Comments/Notes (9)
I-6	Map original range of BFF.	110	completed	-	-	-	-	-	-	-	Shown by map in plan narrative.
I-6	Map current range of BFF.	120	2	continuous	6^{A}	SE	-	100	100	100	Update as new sightings indicate a change in the range and record new observations continuously.
I-2	Map and measure prairie dog towns in each state.	211	3	Variable by State and Federal Agency	-	-	State Wildlife Agency and Federal Agencies having prairie dogs.	-	-	-	The State Agency is to receive all inventory data compiled in that state. As a priority 3 job, surveys may be limited by need and available funds. Update continuously.
I-2	Compile habitat measurement data.	212	3	FY84	6	SE	-	500	-	-	All information from Job 211 will be consolidated and a report prepared every 5 years.
I-2	Map and measure BFF habitat other than prairie dog towns.	222	3	unknown	-	-	State Wildlife Agency and Federal Agencies having other habitat.	-	-	-	May be delayed indefinitely depending upon needs and availability of funds for Research Job 221.
I-6	Locate BFF populations utilizing current techniques.	311	1	continuous	-	-	State Wildlife Agency and Federal Agencies having prairie dogs.	-	-	-	New techniques will be used as available (Job 313).
I-6	Solicit new BFF sightings from the public.	312	1	continuous	$2^{A}66^{A}$	SE	State Wildlife Agency	(FWS) 2000	(FWS) 2000	(FWS) 2000	State Wildlife Agency is depository for all reports received in a State.
I-6	Compile records of BFF sightings.	314	2	continuous	6^{A}	SE	State Wildlife Agency	(FWS) 500	(FWS) 500	(FWS) 500	The State Wildlife Agency will compile records of sightings and report these records at least annually to the FWS.
M-7	Conduct workshops to demonstrate current techniques for locating BFF.	315	2	FY84 FY86	2&6	SE	-	5000	-	6500	FWS will provide training for State and Federal agency representatives. Repeat every 2 or 3 years as needed.
I-1	Inventory wild BFF populations.	321	2	continuous	-	-	State Wildlife Agency and/or Federal Agencies having BFF.	-	-	-	Monitor known populations annually.
I-1	Inventory introduced BFF populations.	322	3	-	-	-	State Wildlife Agency and/or Federal Agencies having BFF.	-	-	-	No activity until transplant stock available.

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IMPLEMENTATION SCHEDULE (ntinued

General Category (1)	Plan Task (2)	Task # (3)	Priority # (4)	Task Duration (5)	Responsible Agency FWS Region (6)	Responsible Agency FWS Program (6a)	Responsible Agency Other (7)	Fiscal Year Costs (Est.) FY-1 (8)	Fiscal Year Costs (Est.) FY-2	Fiscal Year Costs (Est.) FY-3	Comments/Notes (9)
I-11	Develop action plan for sylvatic plague outbreak in prairie dog towns occupied by BFF.	413	2	FY84	6	SE	-	1200	-	-	-
O-2	Enforce convention on International Trade in Endangered Species of Wild Flora and Fauna.	421.100	3	continuous	All*	LE	State Wildlife Agency having common border with foreign country.	-	-	-	FWS/LE funds include CITES and U.S. listed threatened and endangered species. Funds are not separate for BFF.
O-2	Enforce Endangered Species Act -- Section 7 and 9.	421.200	1	continuous	All*	LE	State Wildlife Agency	-	-	-	FWS/LE funds are not separate for BFF.
O-2	Enforce State laws affecting BFF.	421.300	1	continuous	-	-	State Wildlife Agency	-	-	-	-
R-4	Develop a prototype BFF management plan.	422	2	FY86	6	SE	-	-	-	1200	The prototype plan will evolve as research is completed. Interim guidance is described under 412.400. FWS will evaluate available data for a management plan in FY-3.
M-7	Apply prototype BFF management plan to local populations.	423	2	continuous	-	-	State Wildlife Agency and/or Federal Agencies.	-	-	-	Interim plans will be utilized until adequate information is available.
O-1	Conduct I&E program stressing importance of habitat on private land.	412.200	2	continuous	2*&6*	SE	State Wildlife Agency and FWS.	(FWS) 1000	(FWS) 1000	(FWS) 1000	-
O-1	Conduct I&E program to explain laws protecting BFF.	421.400	2	continuous	2*&6*	SE	State Wildlife Agency and FWS.	(FWS) 1000	(FWS) 1000	(FWS) 1000	-
O-1	Conduct I&E program directed to the general public.	430	2	continuous	2*&6*	SE	State Wildlife Agency	(FWS) 2000	(FWS) 2000	(FWS) 2000	-
R-3	Conduct research to define BFF habitat other than prairie dog towns.	221	3	-	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	No action recommended first 3 years.
R-4	Refine existing BFF survey techniques and develop new techniques.	313	1	FY84 FY85	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	FWS develop tasks and funding. Refinements to be used when available.
R-3	Conduct research on prairie dog ecology.	411.240	2	FY85 FY86	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	FWS develop task and funding.

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IMPLEMENTATION SCHEDULE (Continued)

General Category (1)	Plan Task (2)	Task # (3)	Priority # (4)	Task Duration (5)	Responsible Agency FWS Region (6)	FWS Program (6a)	Other (7)	Fiscal Year Costs (Est.) FY-1 (8)	FY-2	FY-3	Comments/Notes (9)
I-3	Identify habitat occupied by BFF.	411.100	2	continuous	2[a]&6[a]	SE	State Wildlife Agency and Federal Agencies.	(FWS) 2000	(FWS) 2000	(FWS) 2000	Conduct site surveys and evaluations as appropriate.
M-3	Develop programs for managing prairie dog towns on public land.	411.210	1	continuous	-	-	State Wildlife Agency and Federal Agencies having prairie dogs.	-	-	-	Habitat must be available for future BFF restoration needs.
I-4	Survey and evaluate management programs.	411.220	2	continuous	2&6[a]	SE	State Wildlife Agency and Federal Agencies having programs.	(FWS) 1000	(FWS) 1000	(FWS) 1000	Agencies will modify on-going programs as improved techniques are demonstrated.
O-1	Conduct workshops to explain habitat management programs.	411.230	3	continuous	-	-	State Wildlife Agency and Federal Agencies.	-	-	-	Manager and lessee must understand the program on public land.
O-3	Propose legislation to permit survival of prairie dog towns (state public land).	411.300	2	unknown	-	-	State Wildlife Agency where needed.	-	-	-	The option for prairie dog management must be available.
A-6	Acquire land in fee title.	412.110	1-3	continuous	Wash. Office[a]	SE	State Wildlife Agency and/or Federal Agencies.	-	-	-	BFF restoration objective within a state should be established by joint understanding between all agencies therein. A FWS contingency fund is recommended for emergency purchase.
A-2	Acquire easements on land.	412.120	1-3	continuous	Wash. Office[a]	SE	State Wildlife Agency	-	-	-	Easement lands should be in agreement with BFF restoration objectives within each state. A FWS contingency fund is recommended for emergency easements.
M-7	Monitor Federal assistance programs.	412.300	3	continuous	2[a]&6[a]	SE	State Wildlife Agency	(FWS) 2000	(FWS) 2000	(FWS) 2000	FWS monitor through Section 7 consultations.
M-3	Assist in developing plans for habitat management on private land.	412.400	1-3	continuous	2[a]&6[a]	SE	State Wildlife Agency	(FWS) 300	(FWS) 300	(FWS) 300	Management on private land will be difficult to accomplish and must consider local needs. FWS will assist as requested.
O-3	Propose legislation to permit survival of prairie dog towns on private land.	412.500	2	unknown	-	-	State Wildlife Agency where needed.	-	-	-	-

IMPLEMENTATION SCHEDULE ((tinued)

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General Category (1)	Plan Task (2)	Task # (3)	Priority # (4)	Task Duration (5)	Responsible Agency FWS Region (6)	FWS Program (6a)	Other (7)	Fiscal Year Costs (Est.) FY-1 (8)	FY-2	FY-3	Comments/Notes (9)
R-4	Develop techniques for increasing prairie dog populations.	411.251	3	-	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	No action recommended first 3 years.
R-4	Develop techniques for control of prairie dog populations.	411.252	3	-	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	No action recommended first 3 years.
R-4	Determine spatial requirements and mobility of BFF.	422.100	1	FY84 FY85 FY86	6	SE	State Wildlife Agency, Federal Agencies, other.	(FWS) 55000	(FWS) 55000	(FWS) 55000	-
R-6	Understand population dynamics of the BFF.	422.200	1	FY84 FY85 FY86	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	FWS develop task and funding.
R-4	Determine nutritional requirements of the BFF.	422.300	3	-	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	No action recommended first 3 years.
R-4	Understand interrelationships of the BFF with man and his activities.	422.400	2	FY84 FY85	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	FWS develop tasks and funding.
R-4	Study behavioral characteristics of the BFF.	422.500	2	FY84 FY85 FY86	6	SE	State Wildlife Agency, Federal Agencies, other.	(FWS) 40000	(FWS) 40000	(FWS) 40000	-
R-4	Study interrelationships of the BFF with other vertebrates.	422.600	2	FY86	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	FWS develop tasks and funding.
R-4	Study effects of weather.	422.700	3	-	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	No action recommended first 3 years.
R-4	Understand reproduction and development of the BFF.	422.800	2	FY84 FY85 FY86	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	FWS develop tasks and funding.
R-11	Studies of pathology.	422.900	2	-	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	No action recommended first 3 years.
R-7	Develop propagation techniques.	512.100	1-3	FY85	6	SE	State Wildlife Agency, Federal Agencies, other.	-	-	-	FWS develop tasks and funding.
M-2	Capture wild BFF.	511	1-3	FY84	6	SE	State Wildlife Agency and FWS.	-	-	-	FWS develop tasks, funding, and schedule in cooperation with State Agency. Refer to Job 522.
M-1	Propagate pen-reared BFF.	512.210	3	-	6	SE		-	-	-	No action foreseen first 3 years.

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IMPLEMENTATION SCHEDULE (C inued)

General Category (1)	Plan Task (2)	Task # (3)	Priority # (4)	Task Duration (5)	Responsible Agency FWS Region (6)	Responsible Agency FWS Program (6a)	Responsible Agency Other (7)	Fiscal Year Costs (Est.) FY-1 (8)	Fiscal Year Costs (Est.) FY-2	Fiscal Year Costs (Est.) FY-3	Comments/Notes (9)
H-1	Propagate field-reared BFF.	512.220	3		6	SE	State Wildlife Agency, FWS, other.	-	-	-	No action foreseen first 3 years.
H-3	Establish priorities of restocking.	321	1	FY84	6	SE	All Recovery Plan cooperators.	(FWS) 3600	-	-	Based on 12 states at $300 each and Federal agencies funding own costs to meeting.
H-3	Establish habitat sites for introductions.	322	1	FY84	6	SE	State Wildlife Agency or Federal Agencies.	-	-	-	Site characteristics to be developed under 422. Develop tasks and funding when information available. Each state should develop intended restoration objectives in cooperation with Federal Agencies.
H-3	Release transplant stock at introduction sites.	323	1-3	FY86	6	SE	State Wildlife Agency and Federal Agencies.	-		-	No action foreseen within 2 years. Develop task and funds as information is available under 422.

* Indicates action to continue each year by FWS.

SE Indicates Endangered Species program Fish and Wildlife Service (FWS).

APPENDIX F-2

AMERICAN PEREGRINE FALCON RECOVERY PLAN

(ROCKY MOUNTAIN SOUTHWEST POPULATIONS)

AMERICAN PEREGRINE FALCON

ROCKY MOUNTAIN/SOUTHWEST POPULATION

RECOVERY PLAN

(ROCKY MOUNTAIN SOUTHWEST POPULATION-
ARIZONA, COLORADO, IDAHO, KANSAS, MONTANA,
NEBRASKA, NEW MEXICO, NORTH DAKOTA,
SOUTH DAKOTA, OKLAHOMA, TEXAS,
UTAH, AND WYOMING)

Prepared by the

Rocky Mountain/Southwest Peregrine Falcon Recovery Team

APPROVED

DATE: DEC [illegible] 1984

U.S. Fish and Wildlife Service: Robert E. Gilmore
Director

AMERICAN PEREGRINE FALCON

Rocky Mountain and Southwest Population

RECOVERY PLAN

Prepared by the

Rocky Mountain/Southwestern Peregrine Falcon Recovery Team

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PRIORITY RECOVERY ACTIONS

The following activities are of the highest priority in the recovery effort and warrant special mention.

1. Identify and maintain existing and potential hunting and nesting habitat and evaluate previously unsurveyed habitats (Task 111 and 112).

   Recent results of surveys in the National Parks of southern Utah suggest that a significant wild breeding population may exist in that region. Information also indicates that the Grand Canyon region of Arizona potentially harbors an as yet undocumented breeding population.

   It is imperative to initiate surveys in the Grand Canyon and expand efforts in Utah. Those breeding territories and hunting habitats that are documented must be maintained and monitored to establish reproductive trends. Similarly, potential habitats in Texas and New Mexico should also be surveyed to complete the picture of actual population levels.

2. Monitor population trends, site occupancy, and productivity of wild pairs and productivity (Task 211).

   It is imperative that the remaining wild breeding pairs be regularly monitored to document productivity and population trends. These monitoring efforts must also be expanded to other States as breeding pairs are reestablished through hacking efforts. Unfortunately, investigators have been somewhat haphazard in their monitoring approaches, and their results are not compatible.

   Optimal monitoring efforts must be annual in nature and involve the following steps:

   a. Visitation of all documented breeding territories during the courtship and incubation phase to ascertain site occupancy (Task 211).
   b. When pairs are located, they should be observed to ascertain if egg laying has occurred. Eyries should be visited to count clutch size (Task 211).
   c. Upon hatching, eyries should be visited within a week to determine hatch success and collect nonviable eggs and shell fragments for pesticide analysis and eggshell thickness trends (Task 214).
   d. Sites containing broods should be visited when the young are between 3 and 5 weeks of age so that they can be banded and prey remains can be collected for analysis (Tasks 2121 and 2143).
   e. Sites successfully producing broods should be observed at the time of anticipated fledging to determine actual fledging success (Task 211).

Failure to document occupancy early in the reproductive phase leads to biased information. Sites that failed in the egg laying phase may be vacant when visited later in the season, which gives the false impression of reduced occupancy rates and inflated reproductive success.

Failure to document clutch size makes it impossible to determine hatch success. In addition, nonviable eggs will not be available for analysis, and eggshells will be crushed and scattered by the brood. A delay in visiting recently hatched broods yields inaccurate hatching success information since nestling mortality will confuse the results. Failure to band nestlings reduces information which might eventually be forthcoming on movements and mortalities. Finally, failure to document actual numbers fledged decreases the accuracy of productivity. Since significant mortality occurs at the time of fledging, inflated productivity values will result if actual fledging is not documented.

These monitoring activities become quite labor-intensive even for nesting populations involving several dozen breeding territories and a dozen pairs. If at all possible, each step outlined should be accomplished to yield accurate reproductive information. If this cannot be accomplished, a suitable sample of representative breeding territories should be selected and monitored annually. The same sites should be checked each year. Finally, if it is necessary to reduce the effort, steps c and d might be deleted. Loss of eggshell information might be mitigated somewhat by visiting the sites after broods have fledged and by carefully sifting the nest litter for shell fragments.

3a. Monitor pesticide contamination in breeding peregrines (Tasks 2141 and 2142).

Unfortunately, too many inferences are being drawn about the reproductive health of wild peregrines based upon incomplete nesting surveys (ref. above). Regardless of apparent reproductive output or trends, it is imperative to document actual eggshell thickness of the wild birds. Eggshell thickness approaching .359 mm (pre DDT measurements) represents a population that probably is not suffering from pesticide-induced reproductive failure. There is cause for concern when egg shell thicknesses measure 10 percent less than that value. Thus information can only be obtained by visiting wild eyries (step c above).

3b. Monitor pesticide contamination in peregrine prey at predetermined intervals (Task 2143).

A regionwide collection of prey samples was undertaken in 1980 by the Rocky Mountain Field Station, USFWS, Fort Collins, which yielded pesticide trends in potential prey. This effort should continue on at least a 3- to 5-year basis in order to obtain an idea of relative changes.

4. Continue management actions to maintain normally producing wild pairs and augment those wild populations with documented reproductive difficulties (Task 12 and 223).

At present, Colorado is the only State actively bolstering poor wild reproduction through fostering. Since the population is contiguous with portions of northern New Mexico and southern Utah, it is possible that similar actions may have to be initiated, but only after reproductive difficulties have been documented. Current efforts in Colorado seem to be sustaining and even increasing the breeding populations and should continue until the population is self-sustaining. As efforts are successful to reintroduce peregrines into the northern portion of the range (Idaho, Montana, and Wyoming), it is possible that similar remedial actions may have to occur to sustain reproduction at reoccupied sites.

5. Continue release efforts to reestablish wild breeding pairs in Colorado, Idaho, Montana, Utah, and Wyoming (Task 3222).

Hacking efforts underway in Colorado, Idaho, Montana, Utah, and Wyoming have successfully reestablished breeding pairs. Hacking activity is beneficial to maintenance and expansion of the remanent wild population and must be continued if repopulation of the northern portion of the range is to be expected. Also, northern breeding falcons may contribute to more southern populations as they fill vacant breeding territories they encounter during migration.

PART II

RECOVERY

Primary Objective: Increase anatum peregrine populations in the Rocky Mountain/Southwest region to a minimum of 183 breeding pairs sustaining a long-term average production of 1.25 young per anum by 1995.

When this primary objective is reached or significant new data are obtained, the status of the region's pereyrine population and its dynamics will be reassessed to determine if the primary objective needs to be revised or if reclassification is warranted. However, before reclassification is recommended, production of 1.25 young per total pair must be documented as occurring in the wild without manipulation, and eggshell thickness must be within 10 percent of the pre-DDT average measurements of 0.359 mm and must be maintained for a 5 year span (see Appendix D, Table 2 for State specific recovery goals).

STEP-DOWN OUTLINE

1. Determine, maintain, and protect existing and potential habitat for population continuance and expansion.

    11. Determine essential habitat.

        111. Identify nesting habitat, including feeding areas.

            1111. Analyze and monitor presently used nesting locations and the surrounding area.

                11111, Evaluate physical parameters of each active eyrie site.

                11112. Evaluate physical parameters within 10 miles of each active eyrie site.

            1112. Determine, analyze, and monitor localities formerly used by breeding peregrines and identify presently favorable areas.

            1113. Locate, analyze, and monitor previously unknown eyrie sites.

            1114. Locate and evaluate potential eyrie sites.

        112. Identify nonnesting habitat.

            1121. Initiate research to determine location and related habitats utilized by nonbreeding peregrines (generally subadult) during the breeding season.

1122. Identify habitat used by migrating peregrines.

11221. Determine migration routes and chronology.

11222. Locate and analyze feeding and resting areas.

1123. Locate, map, and evaluate important feeding and roosting areas utilized by wintering pereyrines.

12. Maintain and upgrade suitable habitats to ensure they remain attractive to peregrines.

121. Monitor land-use changes within occupied and potential peregrine habitat and respond to potentially unfavorable operations.

122. Eliminate unfavorable land-use activities and disturbances of key habitats.

1221. Discourage land-use practices and development which adversely alter or eliminate the character of the hunting habitat or prey base within 10 miles and the immediate habitats within 1 mile of the nesting cliff.

1222. Restrict human activities and disturbances between February 1 and August 31* (in excess of those which have historically occurred at the sites) which occur within 1 mile of the nesting cliff(s).

* See Narrative for clarification

123. Discourage/eliminate the use of pesticides and other environmental pollutants which are harmful and would adversely affect the peregrine or its food source (also see Task 214).

1231. Review current Federal and State pesticide usage, toxic substance laws, and regulations, and make recommendations on any proposed actions or changes.

1232. Encourage reduced use of those pesticides known to affect peregrines in all countries where peregrines and/or their prey species spend any part of their lives.

12321. Obtain and review information on pesticide usage and environmental levels in each country involved.

12322. Determine alternative pesticide materials and procedures that are not hazardous to peregrines and recommend their use.

124. Manage essential habitat on private lands through purchase, lease, exchange, or cooperative agreements.

125. Manage essential habitat on public lands through agreement with responsible agencies.

126. Research and implement means of enhancing the physical attributes of eyries and surrounding areas to improve habitat for increased production.

13. Provide protection of occupied and suitable habitat.

131. Implement Section 7 of Endangered Species Act for Federal actions and lands.

132. Implement existing State laws and regulations dealing with non-Federal lands such as emergency closures to hunting, access, zoning, etc.

133. Encourage enactment of appropriate State legislation or regulations for protection of habitat.

1331. Encourage adoption of a State endangered species act or similar authority.

1332. Encourage adoption of a State coordination act or similar authority.

2. Monitor and maintain normal productivity of wild pairs.

21. Annually monitor and document reproductive success at eyries.

211. Obtain accurate annual field data on eyrie occupancy and productivity.

212. Document survival and recruitment into the wild breeding population.

2121. Band and mark all nestlings encountered at wild eyries.

2122. Band and mark all adult peregrines released into the wild (see Tasks 3224 and 332).

2123. Observe wild breeding pairs to document replacement in mates and determine origin and age of marked falcons which may be encountered.

- 213. Document man-related disturbances and other activities which occur at wild eyries.
- 214. Monitor eggshell condition and chemical contamination.
    - 2141. Collect and assay addled eggs.
    - 2142. Collect eggshell fragments from eyries for thickness measurement.
    - 2143. Monitor chemical contaminant levels in peregrine prey.
        - 21431. Collect and assay prey at selected localities to determine sources of pesticide contamination.
        - 21432. Collect and assay prey remains encountered at wild eyries.

22. Develop and implement procedures to maintain and restore breeding populations where necessary.

- 221. Conduct annual State meeting to coordinate peregrine recovery efforts within each State.
- 222. Conduct biannual regional work sessions to coordinate peregrine recovery efforts among cooperating State and Federal agencies (also see Task 323).
- 223. Augment reproduction for those populations experiencing below-normal productivity.
    - 2231. Manipulate clutches, clutch size, broods, and broodsize such that increased fledging rates result.
    - 2232. Research other means of increasing fledging success such as prey enhancement and prey augmentation.
- 224. Prohibit disturbance or illegal take of wild peregrines.

3. Maintain long-term captive propagation and reintroduction with American peregrine falcons to augment the wild population.

31. Build, operate and maintain through 1995, facilities sufficient to house enough pairs to produce 150 or more young per year.

- 311. Maintain and operate facilities to produce 150 or more young per year.
- 312. Maintain genetic heterogeneity and increase numbers of captive American peregrine falcon breeding stock.

3121. Develop breeders from presently held State and federally approved captive pereyrines and their progeny.

3122. Obtain desirable breeders and/or potential breeders presently in captivity through trade, transfer, or loan.

3123. Maintain studbook records.

3124. Pair birds with unlike lineages while avoiding interbreeding American peregrine falcons of the Rocky Mountain region with other subspecies.

32. Release 150 or more captive produced birds per year by 1985 and annually thereafter under conditions optimizing survivorship.

321. Obtain necessary field data annually on nesting chronology of known wild pairs to serve as foster parents and augment their clutches/broods with eggs/young from captive breeding (see Task 2231).

322. Develop and implement augmentation methods employing captive produced falcons.

3221. Implement release of young through intraspecific foster parents.

3222. Implement release of young through "hack" techniques.

3223. Develop and implement release of young through interspecific foster parents.

3224. Develop and implement release of adults at potential eyries or where lone adults are established.

323. Develop an annual release plan.

33. Establish a field research program to evaluate success of restocking program.

331. Place Fish and Wildlife Service bands on all released birds.

332. Place appropriate markers on released birds.

333. Develop new marking techniques.

334. Systematically search for released birds.

335. Establish a regionwide system to report sightings of released birds to gain information.

336. Evaluate research results and apply findings.

4. Conduct information and education programs designed to increase public awareness of the need to protect and restore the peregrine.

   41. Make the public aware of the peregrine, its plight, habitat needs, and recovery efforts currently underway.

      411. Disseminate color brochures, posters, and audiovisual materials to the public through agencies and conservation organizations.

         4111. Develop color brochures and posters.

         4112. Develop an audiovisual program for loan to schools and local conservation groups.

         4113. Develop a film on the peregrine falcon.

         4114. Develop public service ads for printed and electronic media.

         4115. Develop hunter posters and educational materials for dissemination at hunter safety courses.

         4116. Issue press releases and encourage media coverage.

   42. Make public agencies aware of peregrine identification, habitat needs, and recovery efforts currently underway, and clarify agency responsibilities in the peregrine recovery effort.

      421. Provide workshops for public agencies to involve them in information-education programs.

      422. Initiate, produce, and disseminate a periodic newsletter.

5. Encourage National/International coordination and cooperation.

   51. Solicit assistance of technical experts on the species as needed.

   52. Provide coordination among the various agencies and groups involved in peregrine falcon recovery efforts.

      521. Oversee and direct a national information and education (I & E) program relative to peregrine falcon recovery efforts.

      522. Review and approve research proposals and efforts relative to peregrine falcons as requested.

      523. Coordinate various cooperative phases of the recovery plans when mutually desirable.

53. Develop international (Western Hemisphere) coordination and cooperation.

  531. Ensure liaison and information exchange among nations.

  532. Implement international cooperative activities to restore the peregrine.

    5321. Develop cooperative research programs.

    5322. Decrease and eventually eliminate international use of detrimental pesticides (see Task 1232).

    5323. Develop international law enforcement and habitat protection programs.

    5324. Develop international information and education programs relative to the peregrine.

Implementation Schedule for American Peregrine Falcon

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	RESPONSIBLE AGENCY FWS PROGRAM (6a)	RESPONSIBLE AGENCY OTHER (7)	FISCAL YEAR COSTS (EST.) FY-01 (8)	FISCAL YEAR COSTS (EST.) FY-02	FISCAL YEAR COSTS (EST.) FY-03	COMMENTS/NOTES (9)
I2	Analyze and monitor present nesting locations and surrounding area	1111	1	Continuous			State Wildlife Agencies FS, NPS	$ 500	$ 1,500 per site		2-4 person days of observation of known and potential nest sites to document occupancy and evaluate physical parameters
I2	Analyze and monitor localities formerly used and identify presently favorable areas	1112	3	Ongoing			State Wildlife Agencies BLM, FS, NPS	$ 500 per site			2 person days per site
I2	Locate, analyze, monitor previously unknown and potential eyrie sites	1113 1114	2	Ongoing			State Wildlife Agencies BLM, FS, NPS	$2,500/month/person including $1,000 salary, $300 travel, $300 per diem, $900 aircraft			
I2	Identify nonnesting habitat	112	2	5 years	6	SE		—	—	—	Not assignable withi the next 5 years
M3	Maintain and upgrade suitable habitat	12	2	Continuous	6	SE	All concerned State & Federal Agencies	General Administration Costs			
M3	Conduct annual observation to prevent disturbance at specific sites	1222	1	Continuous	6	SE	All concerned Agencies	$ 8,000 per site (2 observers/site for 3 months)			

Implementation Schedule for American Peregrine Falcon

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	RESPONSIBLE AGENCY FWS PROGRAM (6a)	RESPONSIBLE AGENCY OTHER (7)	FISCAL YEAR COSTS (EST.) FY-01 (8)	FISCAL YEAR COSTS (EST.) FY-02	FISCAL YEAR COSTS (EST.) FY-03	COMMENTS/NOTES (9)
0	Discourage/eliminate pesticide & pollutant use that affect peregrines & their food base	123	1	Continuous	6	SE	All concerned State & Federal Agencies, & Foreign countries (primarily Latin American countries)	—	—	—	First requires study of peregrines, peregrine prey, & pesticide use.
0	Encourage use of pesticides & materials not hazardous to peregrines	12322	1	Continuous	6	SE	All concerned State & Federal Agencies, & Foreign countries (primarily Latin American countries)	—	—	—	
A3	Negotiate with private landowner or agencies to manage and protect essential habitat	124 125	3	Ongoing			State Wildlife Agencies BLM, FS, NPS	—	—	—	Varies site to site
M3	Research and implement means of enhancing eyries and surrounding areas	126	3	Ongoing			State Wildlife Agencies BLM, FS, NPS	—	—	—	Varies as to type of research and implementation

GENERAL CATEGORY	PLAN TASK	TASK #	PRIORITY #	TASK DURATION	RESPONSIBLE AGENCY: FWS REGION	RESPONSIBLE AGENCY: FWS PROGRAM	RESPONSIBLE AGENCY: OTHER	FISCAL YEAR COSTS (EST.) FY-01	FY-02	FY-03	COMMENTS/NOTES
(1)	(2)	(3)	(4)	(5)	(6)	(6a)	(7)	(8)			(9)
O2, 3	Protect occupied or suitable habitat through implementation of Section 7 and implementing or encouraging State regulations	131 132 133	1	Continuous	6	SE	State and Federal	—	—	—	
R1	Obtain accurate field data on eyrie occupancy and productivity	211	1	Continuous			State Wildlife Agencies	$ 1,000 per site (4 person days per site)			
R1	Document survival and recruitment into wild breeding population	212	2	Ongoing 10-12 yrs.	6	SE	State Wildlife Agencies BLM, FS, NPS	$ 750 per site (3 person days per site)			
R2	Document man-related disturbances and other activities at wild eyries	213	3	Ongoing	6	SE	State Wildlife Agencies BLM, FS. NPS	$ 500 per site (2 person days per site)			
R2	Monitor eggshell condition chemical contamination	214 2141 2142 2143	1	Continuous		PWRC	State Wildlife Agencies	$ 200 per sample			Samples obtained during implementation of 211 and 212
O4	Conduct annual meetings to coordinate management and introduction	221 222	3	Long term	6	SE	State & Federal Wildlife Agencies	—	—	—	FWS will develop
M2	Manipulate clutches, clutch-size, to increase/augment reproduction	2231	2	Ongoing			State Wildlife Agencies	$ 4,000 per site (8-10 person days & travel and per diem)			To continue at sites experiencing shell thinning syndrome

Implementation Schedule for American Peregrine Falcon

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	RESPONSIBLE AGENCY FWS PROGRAM (6a)	RESPONSIBLE AGENCY OTHER (7)	FISCAL YEAR COSTS (EST.) FY-01 (8)	FISCAL YEAR COSTS (EST.) FY-02	FISCAL YEAR COSTS (EST.) FY-03	COMMENTS/NOTES (9)
R4	Research other means of increasing fledging success	2232	3	1-2 years			State Wildlife Agencies	—	—	—	
O2	Prohibit disturbance or take of wild peregrines	224	1	Continuous		SE, LE	State Wildlife Agency	—	—	—	Can be accomplished in conjunction with Task 1222
M1	Operate and maintain facilities sufficient to house enough pairs to produce 150 or more young per year	311	1	10-12 yrs	6	SE	Peregrine Fund	$216,700	$236,000	$262,000	
M1	Develop breeders from presently held captive birds and progeny	3121 3122	1	Ongoing			Peregrine Fund	—	—	—	
M1	Maintain stud book records	3123	3	Ongoing	6	SE	Peregrine Fund	—	—	—	
M1	Avoid interbreeding of captive stock	3124	2	Ongoing	6	SE	Peregrine Fund	—	—	—	
M2	Augment reproduction for those populations experiencing below normal productivity	321 3221	2	Ongoing 10-12 yrs			State Wildlife Agencies	$4,000 per site (8-10 person days and travel and per diem)			
M2	Implement release of young through "hack" techniques	3222	2	Ongoing 10-12 yrs			State Wildlife Agencies BLM, FS, NPS	$8,000 per site			

Implementation Schedule for American Peregrine Falcon

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	RESPONSIBLE AGENCY FWS PROGRAM (6a)	RESPONSIBLE AGENCY OTHER (7)	FISCAL YEAR COSTS (EST.) FY-01 (8)	FISCAL YEAR COSTS (EST.) FY-02	FISCAL YEAR COSTS (EST.) FY-03	COMMENTS/NOTES (9)
M2	Develop and implement release of young through interspecific foster parents	3223	3	Ongoing 10-12 yrs			State Wildlife Agencies	$4,000 per sits (8-10 person days and travel and per diem)			
M2	Develop and implement release of adults at occupied or potential eyrie sites.	3224	2	Ongoing 10-12 yrs.			State Wildlife Agencies Peregrine Fund BLM, FS, NPS	$3,000 per site			
M2	Develop an annual release/reintroduction plan	323	2	Ongoing 10-12 yrs	6	SE	State Wildlife Agencies BLM, FS, NPS	—	—	—	
113	Establish a field research program to evaluate progress of restocking program	33	2	Ongoing			State Wildlife Agencies	—	—	—	This program will be accomplished with little additional expenditure in conjunction with tasks 111, 211,212,223,and 322.
M2	Band and mark all released birds	331 332	3	Ongoing		MBBL	Peregrine Fund State Wildlife Agencies	—	—	—	
M2A	Develop new marking techniques	333	3	Undetermined			State Wildlife Agencies	—	—	—	

Implementation Schedule for American Peregrine Falcon

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	PROGRAM (6a)	OTHER (7)	FISCAL YEAR COSTS (EST.) FY-01 (8)	FY-02	FY-03	COMMENTS/NOTES (9)
R13	Systematically search for released birds	334	2	Ongoing			State Wildlife Agencies BLM, FS, NPS	—	—	—	This job can be accomplished concurrently with tasks 11 and 112
I13	Establish region-wide system to report sightings	336	3	Continuous	6	SE	State Wildlife Agencies	—	—	—	Recovery Team
O1	Develop and disseminate color brochures posters, and audiovisual materials to the public	411	3	1 year	6	SE, PAO	State Wildlife Agencies BLM, FS, NPS	Cost will vary			
O1	Develop audio-visual programs for loan to schools, groups, etc.	4112	3	1 year	6	SE, PAO	State Wildlife Agencies BLM, FS, NPS	Cost will vary			
O1	Develop feature film.	4113	3	1 year	6	SE, PAO	State Wildlife Agencies BLM, FS, NPS	Cost will vary			
O1	Develop public service ads	4114	3	1 year	6	SE,PAO	State Wildlife Agencies, BLM, FS, NPS	Cost will vary			

Implementation Schedule for American Peregrine Falcon

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY			FISCAL YEAR COSTS (EST.) (8)			COMMENTS/NOTES (9)
					FWS		OTHER (7)	FY-01	FY-02	FY-03	
					REGION (6)	PROGRAM (6a)					
01	Develop hunter posters, educational material, etc.	4115	3	1 year	6	SE,PAO	State Wildlife Agencies BLM, FS, NPS	Cost will vary			
01	Issue press releases and encourage media coverage	4116	3	1 year	6	SE, PAO	State Wildlife Agencies BLM, FS, NPS	Cost will vary			
01	Provide workshops for public agencies	421	3	1 year	6	SE	SE, PAO	Cost will vary			
01	Publish a periodic news letter	422	3	Continuous	6	SE	SE, PAO	Cost will vary			
04	Solicit assistance of technical experts	51	3	Continuous			Recovery Team	Team Expense			
04	Provide coordination among various agencies/ groups involved in peregrine recovery	52	3	Continuous	6	SE		Team Expense			
04	Encourage international coordination and information exchange	531 5324	3	Continuous	WO	SE State Dept		Undetermined			
04	Implement international cooperative activities and research programs	5321	3	Continuous	WO	SE State Dept		Undetermined			

Implementation Schedule for American Peregrine Falcon

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	RESPONSIBLE AGENCY FWS PROGRAM (6a)	RESPONSIBLE AGENCY OTHER (7)	FISCAL YEAR COSTS (EST.) FY-01 (8)	FISCAL YEAR COSTS (EST.) FY-02	FISCAL YEAR COSTS (EST.) FY-03	COMMENTS/NOTES (9)
O1	Decrease/eliminate international use of detrimental pesticides	5322	1	Continuous	WO	SE State Dept		Undetermined			
O2	Encourage international law enforcement and habitat protection programs	5323	1	Continuous	WO	LE, SE State Dept		Undetermined			

Suggested Priorities for Implementation of Recovery Actions by State

Recovery Actions	Arizona	Colorado	Idaho	Kansas	Montana	Nebraska	New Mexico	North Dakota	Oklahoma	South Dakota	Texas	Utah	Wyoming
1. Identify and maintain existing and potential nesting and hunting habitat.	1	1	1	1	1	1	1	1	1	1	1	1	1
2. Monitor site occupancy and productivity of wild pairs.	2	2	5		2		2				2	2	2
3. Monitor contaminant levels in wild peregrines and their prey.	3	3	2		4		3				3	3	4
4. Implement management actions to maintain normally producing wild pairs.	5	5	6		6		5				5	5	5
5. Augment wild populations/pairs experiencing reproductive difficulties.		6	7		7						6	6	7
6. Initiate/continue release efforts to reestablish wild breeding pairs		7	4		3	2		2		2		7	3
7. Discourage application of deleterious pesticides and environmental contaminants.	4	4	3	3	5	3	4	3	3	3	4	4	6
8. Conduct Information and Education programs to educate the public and other agencies on the value and needs of the peregrine.	6	8	8	2	8	4	6	4	2	4	7	8	8

1 = Highest Priority

Grizzly Bear

Recovery Plan

GRIZZLY BEAR

RECOVERY PLAN

Prepared by the

U.S. Fish and Wildlife Service in cooperation with the Recovery Plan Leader, Don L. Brown, Montana Department of Fish, Wildlife, and Parks.

APPROVED

DATE: JAN 29 1982

U.S. Fish and Wildlife Service: Robert A. Jantzen
Director

This is the completed grizzly Bear Recovery Plan. It has been approved by the U.S. Fish and Wildlife Service. It does not necessarily represent official positions or approvals of cooperating agencies (and it does not necessarily represent the views of all individuals) involved in preparing this plan. This plan is subject to modification as dictated by new findings and changes in species status and completion of tasks described in the plan. Goals and objectives will be attained and funds expended contingent upon appropriations, priorities, and other budgetary constraints.

Acknowledgements should read as follows:

The Grizzly Bear Recovery Plan, dated January 29, 1982, prepared by the U.S. Fish and Wildlife Service in cooperation with the Recovery Plan Leader, Don L. Brown, Montana Department of Fish, Wildlife, and Parks, under Cooperative Agreement No. 14-16-0006-80-923.

__Additional copies may be obtained from:__

Fish and Wildlife Reference Service
Unit 1
3840 York Street
Denver, Colorado 80205
Telephone: 303/571-4656

Copies of the "Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area" referenced in this plan may be obtained from:

Fish and Wildlife Reference Service
Unit 1
3840 York Street
Denver, Colorado 80205
Telephone: 303/571-4656

or

U.S. Forest Service
Rocky Mountain Region
Box 25127
Denver, Colorado 80225
Telephone: 303/234-4011

PART II

GRIZZLY BEAR RECOVERY PLAN OUTLINE

Primary Goal: To remove the grizzly bear from threatened status in the 48 conterminous United States

In the wake of the human force spreading across the land, grizzly bears have survived in certain refugia - primarily the national parks and wilderness areas - in western North America. That this is true, is altogether fitting with the purpose of these areas: to conserve, perpetuate and portray as a composite whole, the indigenous flora and fauna.

As relatively pristine environments, the national parks and wilderness areas can fulfill the crucial role of providing a standard of environmental health, the concept of which Aldo Leopold stated years ago: "A person (or a society) cannot know what sickness is without some criterion of health." UNESCO has embraced this idea through its "Man and the Biosphere" program.

Hence, we may look toward national parks and similar refugia as our best benchmarks, indicative of healthy communities of plants and animals. It is with this rationale that we have selected available grizzly bear population data from Yellowstone and Glacier National Park to establish our recovery objectives for the species.

To be healthy, however, means to be whole. Since the national parks may not constitute complete ecosystems for a wide ranging species such as the grizzly bear, it is only proper and necessary to delineate such intact ecosystems. It is within these areas that we must apply systematic management to conserve habitats for healthy grizzly bear populations.

Exploration and development of resources and increasing numbers of people within the range of grizzly bears are rapidly dwindling the space and habitat necessary for the bear's survival. All ecosystems are being adversely affected and the time for decisions to reverse this trend is now.

This plan addresses six areas in the conterminous 48 states where grizzly bears are known to have been present during the past decade. These six grizzly bear ecosystems appear to presently have adequate space and suitable habitat to offer the potential for securing and restoring this species as a viable, self-sustaining member of each ecosystem.

The population parameters or their biological equivalents necessary for recovery of the grizzly bear population in the Yellowstone Grizzly Bear Ecosystem (YGBE), the Northern Continental Divide Grizzly Bear Ecosystem (NCDGBE), and the Cabinet-Yaak Grizzly Bear Ecosystem (CYGBE) have been determined or estimated. Recovery levels are defined for each of the populations.

Population parameters necessary for recovery of the species in the Selkirk Mountains Grizzly Bear Ecosystem (SMGBE), Selway-Bitterroot Grizzly Bear Ecosystem (SBGBE) and North Cascades Grizzly Bear Ecosystem (NCGBE) are undetermined. This plan outlines some management options for these populations and steps that will be required to maintain the present population or to initiate actions to effect recovery.

The plan has been structured in a step down outline form addressing each ecosystem. It is recognized that there is much duplication between the sections addressing each ecosystem. However, the initial data base on populations and habitat are significantly different; the specific limiting factors are of varying magnitude between ecosystems; the current management direction is different between ecosystems; and the agencies and groups that have management jurisdiction over the bulk of the grizzly bear habitat in each ecosystem are different. It is for these reasons that we have organized the plan in this manner. The agencies, groups, or individuals that are involved or interested in each ecosystem have a complete chapter addressing not only the elements all ecosystems have in common, but also the elements specific to each ecosystem.

Management guidelines for National Forest and National Park lands have been formulated for the YGBE but stratification of all Forest lands has not been accomplished. Guidelines for the other five ecosystems have not been formulated nor has any stratification of the habitat been accomplished by any state or federal agency. Only the Flathead Reservation within the NCDGBE has taken these steps and only within the reservation boundaries.

ABBREVIATED STEP-DOWN OUTLINE

Objective: Describe methods and actions needed to bring grizzly bear populations to recovered status

1. State or establish the population objective and identify limiting factors.
   11. State or determine population conditions at which the species is viable and self-sustaining.
   12. State, estimate or determine current population conditions.
   13. Identify the man-related population limiting factors if present populations differ from desired.
       131. Identify sources of direct mortality.
       132. Identify sources of indirect mortality.

2. Redress population-limiting factors.
   21. Identify and reduce sources of direct mortality.
   22. Identify and reduce sources of indirect mortality.
   23. Monitor compliance with recovery plan.

3. State or determine the extent and quality of habitat and space appropriate to the achievement of the population goal.
   31. Identify or state occupied space and habitat.
   32. Identify or state agency management stratification and direction within occupied habitat.
   33. Identify or state the differences between total acres with agency stratification and management direction and total acres in occupied space and habitat.
   34. Recommend critical habitat.
   35. Identify travel corridors connecting islands of habitat or grizzly bear ecosystems.

4. Resolve differences between occupied space and habitat and agency management stratifications and direction.

5. Monitor populations and habitats.
   51. Monitor populations before and during recovery.
   52. Monitor populations after recovery.
   53. Monitor habitats before and during recovery.
   54. Monitor habitats after recovery.

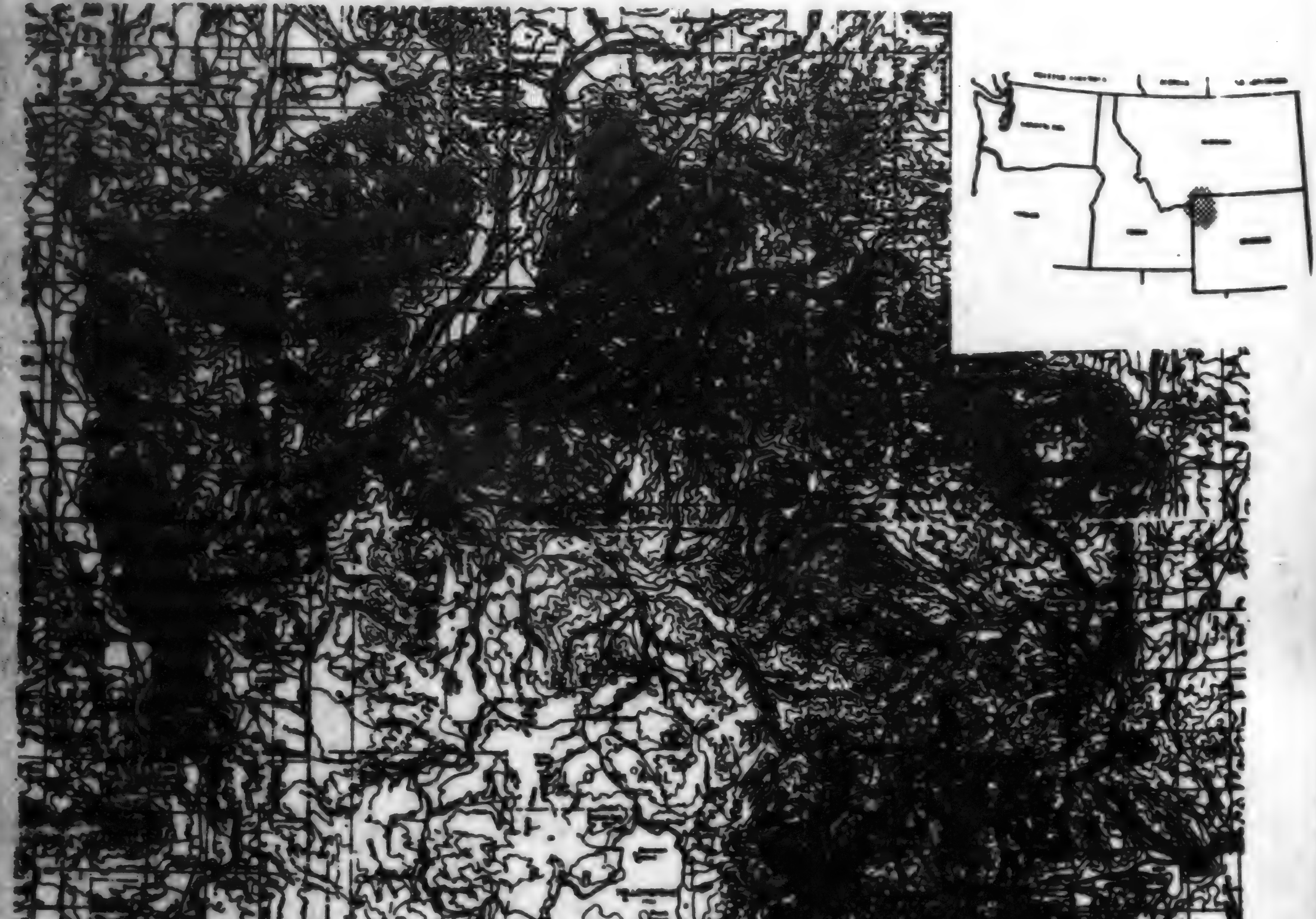
6. Manage populations and habitats.
   61. Manage populations and habitats prior to recovery on Federal lands.
   62. Manage populations and habitats prior to recovery on private and state lands.
   63. Manage populations and habitats after recovery on all lands.

7. Monitor public attitudes.
    71. Sample public viewpoint.
    72. Formulate and implement plans for public acceptance.

8. Implementation of the plan.

9. Revise appropriate federal and state regulations and initiate international cooperation.

FIGURE 3. YELLOWSTONE GRIZZLY BEAR ECOSYSTEM (OCCUPIED TERRITORY) 1979.



RECOVERY PLAN

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

Subgoal: Secure and maintain a viable, self-sustaining grizzly bear population in the Yellowstone Grizzly Bear Ecosystem (Figure 3)

Y1. State or establish a population goal in reference to present population conditions and limiting factors.

Y11. State or determine the level at which the grizzly bear population is considered to be viable and self-sustaining.

Y111. The grizzly bear population in the Yellowstone Grizzly Bear Ecosystem will be viable and self-sustaining when monitoring efforts indicate that recruitment, natality and mortality are at levels supporting a stable or increasing population. The population will be judged recovered (eligible for delisting) when it is determined to be viable at a population size equal to or greater than the population size documented by Craighead et al. They documented a population consisting of 229 bears based on a census efficiency of 77.3 percent, that was recomputed by Cowan (1975) to 301 bears based upon a census efficiency of 58.8 percent. Due to undetermined recruitment and natural mortality rates under free ranging conditions, the higher number is recommended. Due to annual variations in the environment, population characteristics will be judged on a running six year average. During the 1959-67 period, a self-sustaining population associated with a supplemental food source was documented by Craighead et al. (1974) and is represented by the following statistics:

Reproductive rate	0.651	(Craighead et al. 1974)
Females with cubs of the year	14.889	(av. pop. 177) (Craighead et al. 1974)
	19.2	(av. pop. 229) (extrapolated from Craighead et al. 1974)

Females with cubs of the year (cont'd)	25.2	(av. pop. 301) (extrapolated Craighead et al. 1974 and Cowan, 1975)
Cubs/Females	2.209	(Craighead et al. 1974)
Reproductive cycle	3.400	(Craighead et al. 1974)
Estimated total avg. annual mortality	33.2*	bears (Craighead et al. 1974
	RATE	
	18.65%	(Craighead et al. 1974)
	17.10%	(Shaffer 1978)
Avg. annual known mortality	18.889	bears (Craighead et al. 1974)

Y112. Re-evaluate population criteria (Y111) as new information becomes available.

Y12. Determine or state present population characteristics.

Y121. The present grizzly bear population in the Yellowstone Grizzly Bear Ecoysystem, which does not have a significant supplemental food source, is described by the following population characteristics computed as running 6-year averages (Blanchard and Knight 1980) [2]:

Reproductive rate	0.555**	(Knight et al. 1979)
Females with cubs of the year	12.000	(Knight et al. 1979) (av. pop. unspecified)

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*1967 Mortality included an unusually high number of grizzly bears that were killed after it was advertised that 1967 would be the last year of hunting in Wyoming (Craighead, J. 1980 pers. com.)

**A higher rate of cub survival will lower the reproductive rate needed for a stable population (Blanchard and Knight 1980).

Cubs/female	1.900	(Knight et al. 1979)
Reproductive cycle	3.000 [3/]	(Knight et al. 1979)
Avg. annual known man-caused mortality	11.000	(Knight et al. 1979)

The statistics in Y121 are based on a small sample at this time. Continued research is needed to establish the parameters that describe a viable self-sustaining population existing without a significant supplementary food source.

Y122. Re-evaluate population data (Y121) as new information is made available.

Y13. Identify or state the man-related population limiting factors if present population characteristics are less than those judged necessary to sustain a viable population.

Y131. Identify or state sources of direct mortality

Y1311. Illegal hunting

Y13111. Poaching, vandalism, malicious killing

Y13112. Accidental losses resulting from mistaken identity by black bear hunters.

Y13113. Private citizen control by livestock operators, apiarists, outfitters, resort operators in protection of property.

Y1312. Accidental deaths

Y13121. Road kills (highway, train, etc.)

Y13122. Scientific error

Y1313. Control measures

Y13131. Agency (State, NPS or USFWS) control

Y131311. Livestock conflicts

Y131312. Other property damage

Y131313. Life threatening situations

Y13132. Private citizen control

Y131321. Self-defense

Y132. Identify or state activities which can indirectly limit grizzly bear populations through adverse habitat changes, human encroachment on grizzly bear habitat and displacement, grizzly/human conflicts, or adverse conflict resolution.

Y1321. Grazing operations

Y1322. Timber operations (including road construction)

Y1323. Mining, water development, and energy exploration/development

Y1324. Recreation operations

Y1325. Human development of conflicting enterprises, (subdivisions, dog kennels, fish farms, boneyards, garbage dumps, etc.)

Y1326. Cumulative impacts

Y2. Redress population limiting factors

Y21. Reduce the numbers of bears lost to the population through direct man-caused mortality.

Recommended annual man-induced grizzly bear mortality goal for expediting species recovery is zero. Since this mortality level will not likely be achieved, reaching the recovery goal will be expedited if all man-caused mortality does not exceed the currently documented man-caused mortality of 11 bears per year (Knight et al. 1979), calculated as a running 6-year average. This level of man-caused mortality is within the theoretical tolerance limits of 5 to 6% man-caused mortality suggested by Cowan (1972).

Y211. Illegal hunting

Y2111. Provide a concerted law enforcement effort by designating a specially trained law enforcement team coordinated by the U.S. Fish and Wildlife Service to minimize the illegal kill of grizzly bears. One or more persons representing the U.S. Fish and Wildlife Service, National Park Service, U.S. Forest Service, State of Montana, State of Wyoming and State of Idaho will be appointed. Each member will receive specialized training to work on illegal kills of grizzly bears. The team will be trained initially by the Interagency Grizzly Bear Study Team (IAGBST) and other biologists in such matters as distribution, home ranges of identifiable bears, movements by season, mating habits, current location of radio-marked bears and other biological information that may be helpful to the team. Representatives from the Forest Service and Bureau of Land Management will be encouraged to attend in order to more ably assist in gathering field evidence.

All incidents of grizzly bear kills, suspected illegal activities, and rumors of kills will be communicated between the enforcement team, their respective agencies and the IAGBST on a daily basis or as often as is practical.

The Enforcement Team Leader will keep all members of the enforcement team and the IAGBST informed and will organize coordination meetings as needed.

Special emphasis will be directed at covert operations which may be operating commercially.

The Enforcement Team will operate through an interstate, interagency agreement under the direction of the U.S. Fish & Wildlife Service.

It is imperative that the group leader establish a line of communications and rapport with all field personnel, field office staff and local law enforcement agencies in order that he may be notified immediately on a violation or threat of a violation.

Public assistance will be solicted in reporting suspected or known illegal kills. Persons furnishing information which leads to a finding of civil violation or a conviction of a criminal violation of 50 CFR, Part 17.40 regarding grizzly bears, can be rewarded up to one half of the fine or civil penalty not to exceed $2,500.

States having toll free numbers for reporting violations or for information should publicize their numbers as a means of reporting grizzly problems and grizzly bear deaths.

Y2112. Reduce accidental losses resulting from mistaken identity by black bear hunters.

Y21121. The state conservation agencies will make information available to all black bear hunters to assist them in distinguishing between black and grizzly bears.

Y21122. State agencies will issue special warnings to black bear hunters using areas frequented by grizzly bears.

Y21123. Black bear hunting regulations will be modified as appropriate to reduce or eliminate areas of significant conflicts or time periods of conflict.

Y21124. The special enforcement team will investigate accidental grizzly bear kills and recommend prosecution when appropriate.

Y2113. Reduce accidental deaths from other causes

Y21131. All agencies will increase warning signs along highways and roads in high-use grizzly bear areas.

Y21132. All agencies will increase efforts to clean up carrion and other attractants along highways and other routes within occupied grizzly bear range. See "Guidelines"[1] pages 15, 30 and 36.

Y21133. State and federal agencies will seek cooperation of railroad train crews regarding the reporting of all collisions resulting in death of large animals that could attract grizzly bears. Removal or burial of such animals will be arranged.

Y21134. Reduce losses due to mishandling of bears, e.g., an overdose of immobilizing drugs or by improper post-handling. Only experienced personnel that are certified by a sponsoring unit having the required permits

Y2116. Agency control on state and private lands. Follow "Guidelines" direction, pages 61 and 62 related to management situation 2 and other procedures developed by the Fish and Wildlife Service and wildlife agencies in accordance with applicable federal or state laws and regulations.

Y212. Necessary removal of problem bears can be accomplished by a state licensed hunter supervised by a qualified employee of state conservation agencies. Sport hunting on national forest, BLM, state and private lands is recognized as a legitimate tool for managing grizzly bear populations once recovery has been achieved and for controlling nuisance grizzly bears. Species managers must develop regulations to reduce mortality of female grizzly bears.

Y213. The U.S. Fish and Wildlife Service will appoint a grizzly bear mortality coordinator to tabulate annual bear mortality for all grizzly bear ecosystems and assure that all cooperating agencies and the public have current mortality data. The coordinator will maintain key contacts with all agencies and keep detailed records of all conditions surrounding each grizzly bear death. A standard form, meeting the needs of all agencies will be prepared.

Y22. Reduce or eliminate activities identified in Y132 which indirectly limit grizzly bear populations through adverse habitat changes, human displacement of bears, grizzly/human conflicts or conflict resolutions adverse to conservation of grizzly bears.

Y221. Grazing operations

Y2211. On federal lands apply "Guidelines" to make grazing operations compatible with grizzly bear spacial and seasonal habitat requirements. Management direction is currently given in "Guidelines" pages 11, 27, 35 & 45.

Y2212. On state and private lands, agencies and field personnel of agencies involved in grizzly bear management will communicate the intent of the "Guidelines" as described above (Y2211) as a cooperative extension effort.

Y222. Timber operations and fire management and knowledgeable in the application of capture techniques, immobilizing drugs, transportation of drugged animals, scientific data collecting, etc. will handle grizzly bears. The safest effective drugs available will be used.

Y21135. Prepare detailed guidelines for trapping, immobilizing, transporting and handling grizzly bears.

Y21136. Agencies responsible for licensing, conducting, or in anyway overseeing rodent damage control programs, using toxic substances in occupied grizzly bear habitat, should use the most selective (but effective) rodenticide available, and use it in lowest effective dosage. Poison bait will only be used under the on-site supervision of a certified applicator. Disturbances on the treatment site should be created for a minimum of three nights following application of any rodenticide in order to discourage scavenging by grizzly bears. Poisoning within grizzly bear habitat should be delayed as long as possible into July to minimize the potential for grizzly bears to consume poisoned rodents or bait (O'Gara 1980 pers. com.).

Y2114. Agency control on federal lands will be in accordance with 50 CFR 17.40.

Y21141. For grizzly bears involved in livestock conflicts, animal damage control officers will follow the "Guidelines" pages 11, 27, 35 and 59-64 and other appropriate interagency agreements.

Y21142. All other agency control related to grizzly bears should be governed by "Guidelines" directions starting on page 59 and other interagency agreements.

Y2115. Private citizen control. The only legal citizen control of a grizzly bear is that related to self defense. The law enforcement team should carefully investigate every case of grizzly bear mortality alleged to be self defense.

Y2221. On federal lands apply "Guidelines" to make timber operations compatible with grizzly bear spacial and habitat requirements. Management direction is currently given in "Guidelines", pages 6, 21, 34 & 40.

Y2222. On state and private lands, agencies and field personnel of agencies involved in grizzly bear management will communicate the intent of the "Guidelines" as described above (Y2221) as a cooperative extension effort.

Y223. Mining and energy operations

Y2231. On federal lands or lands where sub-surface rights are under federal jurisdiction apply "Guidelines" to make mining and energy operations compatible with grizzly bear spacial and habitat requirements. Management direction is currently given in "Guidelines", pages 17, 32, 38 & 48.

Y2232. On state and private lands, agencies and field personnel of agencies involved in grizzly bear management will communicate the intent of the "Guidelines" as described above (Y2231) as a cooperative extension effort.

Y224. Recreation activities

Y2241. On federal lands apply "Guidelines" to make recreation activites compatible with grizzly bear spacial and habitat requirements. Management direction is currently given in "Guidelines", pages 14, 28, 36 & 46.

Y2242. On state and private lands, agencies and field personnel of agencies involved in grizzly bear management will communicate the intent of the "Guidelines" as described above (Y2241) as a cooperative extension effect.

Y225. Human development. Land management agencies, state regulatory agencies, county commissioners and county zoning boards should give consideration to the needs of grizzly bears in any actions requiring their approval. When homes, summer homes, cabins, camps, farm operations, etc., with attendant dog kennels, pig farms, garbage dumps and boneyards are allowed to invade the habitat occupied by grizzly bears, they will directly or indirectly, but effectively reduce the space and habitat necessary for the bears survival. For private lands not subject to the above restrictions, wildlife managers should give consideration to purchase, lease or easement if habitat components are necessary to survival of the species.

Y226. Monitor and determine the cumulative impact of past project actions. Determine the cumulative effects of all, or any combination, of the actions described above (Y221-Y225) that may adversely impact grizzly bears. Past adverse impacts on the bears, and their habitat, must be a major consideration in the evaluation of any new action (Jonkel 1979). New actions must be evaluated on a regional basis to avoid the cumulative effects of several well planned individual actions impacting bears from too many directions simultaneously. History records that at some point in time, probably associated with the degree of stress, grizzly bears no longer use certain portions of their former range. Therefore, each new action has the potential of being "the last straw," from the standpoint of the bear, and every effort must be made to evaluate each new action with respect to former and future actions.

Y23. Coordinate, monitor and report on activiites relating to redressing population limiting factors and monitor compliance with recovery plan.

Y3. Determine the habitat and space required for the achievement of the grizzly bear population goal.

Y31. State or determine occupied space and habitat where management considerations for grizzly bears are necessary.[5]

Y311. Identify or state occupied grizzly bear space and habitat by land ownership and administrative unit. Occupied space and habitat were delineated by workshop members participating in a grizzly bear recovery planning workshop December 6 and 7, 1979, Missoula, Montana (Fig 3 and Table 2). Present occupied habitat boundaries will be corrected as new data become available.

Y312. Identify or state Forest Service, Bureau of Land Management, state and National Park Service management stratifications within occupied space and habitat (See Table 2).

Y32. Compare agency management stratifications by administrative unit with occupied space and habitat delineations and identify areas where additional management stratification or management direction is necessary (See Table 2).

Y33. Correct data in Table 2 as new information is available.

Y34. Recommend critical habitat

Y4. Resolve differences between occupied space and habitat versus agency stratifications within occupied habitat (Table 2), and/or adjust presently delineated stratifications.

Assumptions:

The November 5, 1979 biological opinion of the Fish and Wildlife Service issued to the Forest Service is that "Implementation of the Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area will promote the conservation of the grizzly bear." Regions 2 and 4 of the forest service have fully implemented the "Guidelines" including stratification of all occupied grizzly bear range in terms of appropriate management situations and managment direction. Forest Service Region 1 has implemented the "Guidelines" only to the extent that Management Situation 1 has been applied to "essential habitat" designated by USFS in 1977. The remainder of Region 1 occupied habitat is unstratified and without the interim management direction outlined in the "Guidelines." Forest Service Region 1 states they will address this subject through forest planning. The Fish and Wildlife Service, states of Montana, Wyoming and Idaho, and a majority of participants attending the grizzly bear recovery planning workshops agreed in principle with the "Guidelines"; specifically that occupied habitat and space should be stratified in terms of management direction that reflects the differing intensities and importance of grizzly bear use.

This plan recognizes that Management Situations 1, 2 and 3, which are most frequently applied, adequately provide for grizzly bear survival and recovery if fully applied with a commitment to recover the species. The plan specifically recognizes that areas designated as Management Situation 1 provide adequate and necessary conservation measures for grizzly bears, and also recognizes that provisions are made for reclassification of other areas to Management Situaton 1 if use representing need is documented.

NOTE: Persons attending the workshops were not all in full agreement with acreages designated for occupied habitat, habitat stratification or areas for resolution. Numerous calls suggesting boundary changes were received during plan formulation, some with apparent justification and some for reasons unknown. Further, there appeared to be a variance in the interpretation of the Criteria for Grizzly Bear Critical Habitat Identification (USFS, 1975) used in the delineation of essential habitat, between forests and between forest districts; and, almost no data on state or private lands. Reconvening the workshops to review each suggested change seemed impractical. Therefore, the acreages presented will have to suffice for a beginning (see Footnote 5), the refinement of occupied habitat and habitat stratification is a plan element.

Y41. Areas for resolution and/or adjustment within the Shoshone National Forest which includes 8,000 acres of state and private land.

Y42. Areas for resolution and/or adjustment within the Targhee National Forest.

  Y421. 7,025 acres of state and private land

  Y422. 38,000 acres of MS2 to be re-evaluated for possible adjustment to MS1* Fish Creek area (most was originally in MS1 in 1977)

Y43. Areas for resolution and/or adjustment within the Bridger-Teton National Forest.

  Y431. 3,820 acres of state and private land

  Y432. 9,300 acres of MS2 to be re-evaluated for adjustment to MS1* Rosie's Ridge

Y44. Areas for resolution within the Gallatin National Forest

  Y441. 176,000 acres of unstratified lands (forest, private and state) within the occupied space and habitat that are in need of management stratification and direction.**

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*Habitat components and sightings over last several years (Knight 1980 pers. com.).

**USFS lands are being stratified (4-8-81).

TABLE 2. OCCUPIED HABITAT, AGENCY MANAGEMENT STRATIFICATION WITHIN, AND DIFFERENCES WHICH REQUIRE RESOLUTION IN THE YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

MGMT. AGENCY	AREAS WITHIN OCCUPIED HABITAT*	ACRES WITH MGMT STRATIFICATION & GUIDELINES DELINEATED BY AGENCIES		DIFFERENCES	AREAS FOR RESOLUTION (ACRES WITHOUT MGMT. STRATIFICATION OR GUIDELINE DIRECTION)***
Shoshone National Forest	1,258,000	MS1	412,000		-0-
		MS2	819,600		-0-
		MS3	17,400		-0-
				9,000	9,000
Targhee National Forest	389,390	MS1	171,390		-0-
		MS2	217,000		-0-
		MS3	1,000		-0-
Bridger-Teton Nat'l Forest	734,100	MS1	665,500		-0-
		MS2	61,500		-0-
		MS3	7,100		-0-
Gallatin National Forest	522,000	MS1	346,001	176,000****	176,000****
Custer National Forest	32,000	MS1	-0-	-0-	-0-
	124,500	MS2	-0-	-0-	-0-
				2,000	2,000
Grand Teton Nat'l Park & John D. Rockefeller, Jr. Memorial Parkway	97,728	MS1	95,373	-0-	-0-
		MS2	-0-**		-0-
		MS3	2,355	-0-	-0-
Yellowstone National Park	2,221,773	MS1	2,221,773	-0-	-0-
Bureau of Land Management (Idaho)	2,800	MS1	-0-	-0-	-0-
		MS2	2,200	-0-	-0-
		MS3	-0-		-0-
Bureau of Land Management (MT)	600		-0-	600	600
Private Lands	54,845		-0-	54,845	54,845

* See Figure 1. ** MS2 areas exist south of occupied territory designated in map.
*** Management guidelines need to be developed for these areas. See job #4.
**** Presently being stratified.

Y442. Review 20,000 acres of area between Taylor Fork and Muddy Creek along the divide and including the Taylor-Hilgard Range for inclusion in occupied grizzly bear range in light of the comments regarding occupied habitat in the Duck Creek-Yellow Mules final environmental statement.

Y443. Re-evaluate 20,000 acres for possible inclusion in MS1 Horse Butte, Red Canyon and south of Taylor's Fork

Y444. 33,000 acres of state and private land

Y45. Areas for resolution within the Custer National Forest which include 2,000 acres of state and private land.

Y46. Areas for resolution within Grand Teton National Park and the John D. Rockefeller, Jr. Memorial Parkway, none.

Y47. Areas for resolution within Yellowstone National Park, none.

Y48. Areas for resolution within lands administered by the Bureau of Land Management.

Y481. 2,800 acres of land within occupied space and habitat in Idaho that are in need of stratification and management direction relative to grizzly bears.

Y482. Unknown acres of land within occupied space and habitat in Montana that are in need of stratification and management direction relative to grizzly bears.

Y49. Approximately 55,000 acres of state and private land are within the occupied space and habitat of this grizzly bear ecosystem. These lands, both within or adjacent to USFS and BLM lands, are not stratified for grizzly bear management relating to direct grizzly mortality and grizzly/human conflicts potential. Agencies should encourage landowners to eliminate conditions related to problems. Management direction described in "Guidelines" would be appropriate in principle as solutions Long-range solutions include purchases, easements or leases, if warranted and other solutions are unavailable. All agencies should identify parcels representing actual or potential problems.

Y49A. Coordinate, monitor, and report activities related to resolving differences between occupied space and habitat and agency stratification and management direction and monitor compliance with recovery plan.

Y5. Monitor grizzly bear population and habitats.

Y51. Monitor grizzly bear population prior to recovery.

Y511. Develop and conduct an intensive monitoring system to measure the selected population parameters by using an appropriate experimental design with sufficient sampling effort to permit valid comparisons with the benchmark statistics in Y111.

Y512. Collate, analyze and compare current research data with with benchmark statistics to determine recovery progress and plan compliance. Coordinate population analysis to assure a common understanding of techniques used in on-going studies.

Y513. Standardize observation report forms and encourage all agencies to require field personnel to use them; develop procedures for verification of reports on grizzly bears and submit copies of all observations, reports of sightings, verifications and other relevant information to the Grizzly Bear Recovery Coordinator. He in turn will submit monthly reports to effected personnel and agencies. Report forms 4 and 5 found on pages 124-125 of the "Guidelines" are examples.

Y52. Monitor grizzly bear population following recovery.

Y521. Develop and conduct an extensive monitoring system to index one or more of the selected population parameters and to provide information on the geographical and ecological distribution. This should be a systematic sampling method to allow valid assessments of population trends by managers.

Y522. Standardize the monitoring procedures and reports and deposit all reports with the Grizzly Bear Recovery Coordinator, who will submit monthly reports to relevant agencies and personnel.

Y53. Monitor grizzly bear habitat prior to recovery.

Y531. Continue habitat surveys to refine current habitat delineations and habitat stratifications. Use a mapping scale appropriate for valid assessments of trends (changes in quality, loss or gain) in habitat components. Standardize terminology (see DGP Special Report No. 41).

Y532. Within the context of current habitat delineations and stratification, develop a more refined grizzly bear habitat classification management system to determine more precisely the nature and extent of habitat.

Y5321. Refine classification and map habitat components, giving non-wilderness areas first priority.

Y5322. Establish a quality index for the extent of the habitat components in the ecosystem.

Y5323. Establish a benchmark of present habitat values to measure the cumulative effects of all actions over time that have impacted grizzly bear habitat.

Y5324. Monitor changes in grizzly bear use of habitat components under various types and degree of human use (i.e., logging, mineral or energy exploration/development, recreation, etc.).

Y5325. Report management activities used successfully to improve habitat.

Y54. Monitor grizzly bear habitat following recovery.

Y541. Inventory and map changes in extent of habitat components every 5 years.

Y542. Continue evaluation of present habitat changes to measure cumulative effects of all actions over time that have impacted grizzly bear habitat.

Y543. Coordinate and review agency action plans, report periodically on status of recommended action programs necessary for plan compliance and advise appropriate agencies on actions necessary to avoid relisting of the species.

Y6. Manage grizzly bear population and habitats.

Y61. Manage populations and habitats on Federal lands by applying management guidelines developed to maintain or enhance habitats, to make land use activities compatible with grizzly bears special and habitat requirements; to minimize the potential for human/bear conflicts.

Y611. Develop and refine procedures for relocating grizzly bears: Refine "Guidelines" relative to relocation of bears as needs dictate and research indicates.

Y6111. Develop and coordinate procedures to expedite the relocation of nuisance bears, review and update interagency agreements (NPS, FS, WG&F, IF&G, MFW&P, FWS) see pages 57-64 "Guidelines," make a determined effort to relocate bears within 24 hours and continue search for new release areas.

Y6112. Research and develop methods to rehabilitate problem bears and develop an aversive conditioning of the bear that will cause the bear to avoid repeating the behavioral pattern that led to the human/bear confrontation. The track record on relocated bears staying out of trouble is less than good. The learned behavior of the original experience that caused them to be a problem bear appears to persist; after several similar encounters the grizzly bear is usually dispatched.

Y6113. Develop and coordinate interagency agreements and procedures for the introduction of grizzly bears into areas of former habitat or to bolster low level populations outside the YGBE. Note: Strong leadership will be necessary to reach agreements between all state and federal agencies and a thorough investigation conducted prior to transplanting bears to areas of low populations or for the introduction of new populations. Using nuisance bears for this purpose should be discouraged unless rehabilitation training is proven to be successful.

Y612. Control or remove documented nuisance grizzly bears on all lands within recommended mortality levels per criteria and steps on pp. 59-62 of the Guidelines (see Y21)[a].

Y62. Manage populations and habitats on private and state lands by developing and applying management guidelines prior to recovery that [illegible] or enhance habitats and recommend land use [illegible] compatible with grizzly bear requirements for [illegible] and habitat; minimize potential for human/bear conflicts. See Y611 and Y612.

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[a] Removal of nuisance bears by a state licensed hunter, supervised by a qualified representative of a state wildlife agency, is an acceptable option.

Y63. Continue to manage habitats and populations on all lands upon recovery of the grizzly bear population in the ecosystem. Refine control methods, establish harvest quotas and develop a coordinated system for sport hunting of grizzly bears on non-park lands.

Y631. Intensify management activities and monitoring of grizzly bears in areas of sheep allotments to reduce losses of both bears and sheep.

Y632. Establish baseline data on grizzly bears for at least two years prior to issuance of any permit for major construction activities that may create a disturbance for grizzly bears that may cause them to abandon the area.

Y633. Monitor radio-tagged grizzly bears in the areas where special permits or unusual activities that may impact grizzly bears are being conducted.

Y7. Develop and initiate appropriate information and education programs.

Reducing man-induced mortalities is a major factor in effecting the recovery of the grizzly bear. Therefore, it is crucial to the recovery effort that people understand reasons for actions in order to have a favorable attitude toward the bear. Private conservation organizations interested in the recovery of grizzly bears could be of assistance if they would disseminate appropriate information in their publications and news releases.

Y71. Sample, quantify and evaluate public attitudes toward grizzly bears, grizzly habitat protection and maintenance, land use restrictions, mitigating measures, relocation of bears, hunting, nuisance bear control actions and habitat acquisition or easement.

Y711. Sample and evaluate attitudes of people residing in or adjacent to grizzly bear management areas.

Y712. Sample and evaluate attitudes of people geographically removed from grizzly bear management areas.

Y72. Formulate ways to improve public attitudes and acceptance of habitat maintenance and protection, research and management. Agencies having the authority and responsibility for control actions will institute and carry out information and education programs to inform citizens having problems with grizzly bears of the appropriate procedures and contacts for assistance.

V73. Develop means to extend public attitudes to actions plans and/or funding.

V8. Implementation of plan by jobs, priority and cost. To facilitate implementation the Fish and Wildlife Service will appoint a Grizzly Bear Recovery Coordinator to collate all relevant information on grizzly bears, coordinate and stimulate compliance and action to implement recovery plan. He will submit progress reports and conduct workshops and meetings as necessary. This is a particularly important position that will provide a central focal point for the accumulation, exchange, and dissemination of information, and a central point for multi-agency coordination that will greatly aid in the judicious use of resources and materially enhance the recovery effort. The Fish and Wildlife Service should expeditiously establish this position.

V9. Revise appropriate federal and state regulations to reflect current situations and facilitate implementation of actions necessary for species recovery.

PART
YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY	PLAN TASK	TASK	PRIORITY	TASK DURATION	RESPONSIBLE AGENCY*			FISCAL YEAR COSTS (EST) (Yr. following Plan approval)			COMMENTS
					FWS REG.	PROGRAM	OTHER	1ST YR	2ND YR	3RD YR	
(1)	(2)	(3)	(4)	(5)	(6)	(6a)	(7)	(8)			(9)
02	Develop a specially trained law enforcement team to reduce illegal grizzly bear deaths	Y2111	1	unknown	6*	LE		2,000	800	800	
							WG&F	700	250	250	
							NPS	700	250	250	
							IF&G	700	250	250	
							MTFW&P	1,800	400	400	
							FS	1,500	1,500	400	
01	Distribute pamphlets to black bear hunters to identify differences between black bears and grizzly bears	Y21121	2	continuous			MTFW&P*	1,000	1,000	1,000	
							IF&G*	1,000	1,000	1,000	
							WG&F*	800	800	800	
					6	PA	FS, BLM	No costs - distribution only			
01	Special warning to black bear hunters, hunting in grizzly bear habitat	Y21122	2	continuous	6	LE	MFW&P*, FS, BLM IF&G* WG&F*	costs included in Y21121			
01	Warning signs along highways and high use roads in occupied grizzly bear range	Y21131	3	As required	6	SS	NPS* WG&F	-0-	costs to be estimated when research determines areas of probable conflict		
							FS* BLM	-0-			
							MDH* MTFWP, IF&G	-0-			
							WSC*	-0-			
							ITD*	-0-			
M7	Clean up carrion along roads to avoid attracting grizzly bears	Y21132	3	continuous	6	ADC	NPS* BLM FS* MFW&P MDH* IF&G ITD* WG&F WSC*	Costs included in ongoing programs; Grizzly Bear Recovery Coordinator will urge appropriate agencies to take necessary action			
M7	Clean up carrion that may attract grizzly bears to railways	Y21133	3	continuous	6*	SE ADC	FS, BLM MTFW&P NPS, WF&G IF&G	Grizzly Bear Recovery Coordinator Will initiate proper action with railroads and seek assistance from other agencies			

*Denotes Lead Agency

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY* FWS REG. (6)	PROGRAM (6a)	OTHER (7)	FISCAL YEAR COSTS (EST) (Yr. following Plan approval) 1ST YR (8)	2ND YR	3RD YR	COMMENTS (9)
M5	Reduce losses due to mishandling bears and prepare guidelines	Y21134 Y21135	1	continuous	6*	SE		1,000	200	200	
							MFW&P, IF&G NPS, BLM, WG&F	Grizzly Bear Recovery Coordinator will prepare and distribute guidelines and maintain update			
M7	Reduce potential for grizzly bear losses due to improper rodent control or mishandling rodenticide	Y21136	2	continuous			EPA*, MDA appropriate state agencies in ID & WY IF&G, WG&F, FS, MFW&P, BLM	Require applicator to follow guidelines and take necessary precautions; Animal Damage Control Supervisor will arrange checks for compliance			
M5	Control nuisance grizzly bears causing damage or threatening public safety	Y2114 Y2116 Y21141 Y21142	1	continuous	6*	ADC		10,000	10,000	10,000	
							MFW&P*	5,000	5,000	5,000	
							WG&F*	6,250	6,250	6,250	
							IF&G*	5,000	5,000	5,000	
							NPS*	35,000	35,000	35,000	
							FS, BLM				
O2	Supervise removal of problem bears by licensed hunter	Y212	3	unknown	6	LE	IF&G* WG&F* MFW&P*	cost assigned to agency choosing this option			
O4	Appoint a Grizzly Bear Mortality Coordinator for all grizzly bear ecosystems in the conterminous 48 states	Y213	1	continuous	6*	SE		2,000	2,000	2,000	
							MFW&P	25,000	25,000	25,000	
							WG&F, BLM	5,000	5,000	5,000	
							IF&G, NPS, FS	5,000	5,000	5,000	

*Denotes Lead Agency

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY* FWS REG. (6)	RESPONSIBLE AGENCY* PROGRAM (6a)	RESPONSIBLE AGENCY* OTHER (7)	FISCAL YEAR COSTS (EST) (Yr. following Plan approval) 1ST YR (8)	2ND YR	3RD YR	COMMENTS (9)
M3	Apply "Guidelines to make livestock grazing on federal lands more compatible with the requirements of grizzly bears	Y2211	1	continuous	6	SE	FS*, BLM*, WG&F, IF&G MFW&P, MDSL, IDL, WSF	All agencies having surface management responsibilities will fund the necessary activities to fully implement "Guidelines" direction			
O1	Communicate intent of "Guidelines" as described on pages 11, 27,35, and 59-64 as a cooperative extension effort on private and state lands relative to grazing	Y2212	2	continuous	6*	SE ES	MDSL, IDL FS*, BLM* IF&G*, MFW&P* WG&F*, WSF, NPS	All agencies will encourage personnel to communicate with private land owners, lease holders of state lands and state land managers to take actions outlined in "Guidelines" whenever possible			
M3	Apply "Guidelines" to make timber operations on federal lands more compatible with grizzly bear spacial and habitat requirements	Y2221	1	continuous	6	SE	FS*, BLM* MFW&P, IF&G, MDSL, WSF, IDL, WG&F	All agencies having surface management responsibilities will fund the necessary activities to fully implement "Guidelines" direction.			
O1	Communicate intent of "Guidelines" as described on pages 6, 21,34, 59-64 as a cooperative extension effort on private and state lands relative to timber management	Y2222	2	con-	6*	SE ES	FS*, BLM* WG&F*, IF&G* MFW&P*, MDSL IDL, WSF,NPS	All agencies will encourage personnel to communicate with private landowners, lease holders of state lands and state land managers to take actions outlined in "Guidelines" whenever possible			
M3	Apply "Guidelines" to make mining and energy operations under federal jurisdiction compatible with requirements of grizzly bears	Y2231	1	continuous	6	SE	FS*, BLM,* NPS*, MFW&P, WG&F, IF&G	All agencies having management responsibilities will fund the necessary activities to fully implement "Guidelines" direction			

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY* FWS REG. (6)	PROGRAM (6a)	OTHER (7)	FISCAL YEAR COSTS (EST) (Yr. following Plan approval) 1ST YR (8)	2ND YR	3RD YR	COMMENTS (9)
01	Communicate intent of "Guidelines" as described on pages 17,32,38, 59-64 as a cooperative extension effort on private and state lands relative to mining and energy operations	Y2232	2	continuous	6*	SE ES	FS*, BLM*, WG&F*, IF&G* MFW&P*, MDSL, IDL, WSF, NPS	All agencies will encourage personnel to communicate with private land owners, lease holders of state land and state land managers to take actions outlined in "Guidelines" whenever possible			
M3	Implement guidelines for recreational activities to make them more compatible with spacial and habitat requirements of grizzly bears on federal lands	Y2241	1	continuous	6	SE	BLM*, FS*, NPS*, MFW&P, WG&F, IF&G	All agencies having management responsibilities will fund the necessary activities to fully implement "Guidelines" direction			
01	Communicate intent of "Guidelines" as described on pages 14,28,36, and 59-64 as a cooperative extension effort on private and state lands relative to recreation development or pursuit	Y2242	2	continuous	6*	SE ES	FS*, BLM*, WG&F*, IF&G* MFW&P*, MDSL IDL, WSF, NPS	All agencies will encourage personnel to communicate with private land owners, outfitters, resort operators, lease holders of state lands and state land managers to take actions outlined in "Guidelines" whenever possible.			
04	Consider the needs of grizzly bears when reviewing permits for development in occupied range via county zoning, state regulations and by applying the "Guidelines" on federal lands.	Y225	2	continuous	6*	SE ES	MFW&P*, WG&F* IF&G*, BLM* FS* State lands, regulatory agencies, EPA, all county or regional zoning boards, county commissioners	In addition to a cooperative extension effort by all agencies, duties of the Grizzly Recovery Coordinator will include developing guidelines to assist state, local, and private interests in assessing and planning projects and activities that will be compatible with grizzly bear management			

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY* FWS REG. (6)	PROGRAM (6a)	OTHER (7)	FISCAL YEAR COSTS (EST) (Yr. following Plan approval) 1ST YR (8)	2ND YR	3RD YR	COMMENTS (9)
I1	Determine the cumulative effects of all actions impacting grizzlies and through mid-range interagency planning, avoid placing stress on them; leave space for bears to retreat to and still be available to return to the project area when the project is concluded	Y226	1	2 yr.	6*	SE	 FS* BLM* NPS* MFW&P, WG&F, IF&G	10,000 10,000 2,000 10,000	10,000 10,000 2,000 10,000	-0- -0- -0- -0-	
O4	Coordinate, monitor, and report on activities relating to redressing population limiting factors; monitor compliance with recovery plan	Y23	2	continuous	6*	SE	FS, NPS MFW&P, BLM WG&F, IF&G, WSF, MDSL, private landowners, DNRC public	Costs included in Grizzly Bear Recovery Coordinator's duties			
I2	Adjust occupied habitat boundaries habitat stratification and management direction and acreages as new information becomes available	Y311 Y312 Y32 Y33	2	continuous	6*	SE	All agencies, public	Included in Grizzly Bear Recovery Coordinator's duties			
I3	Recommend Critical Habitat	Y34	3	2 yr.	6*	SE	 NPS, WY&G, IF&G, MFW&P, BLM, WSF, MDSL, FS, private landowners DNRC, public	25,000	25,000	-0-	

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY*			FISCAL YEAR COSTS (EST) (Yr. following Plan approval)			COMMENTS (9)
					FWS REG. (6)	PROGRAM (6a)	OTHER (7)	1ST YR (8)	2ND YR	3RD YR	
M3	Make recommendations on 9,000 acres of private and state lands within the Shoshone National Forest relative to conservation of grizzly bears; alternatives include purchase, trade or a cooperative extension service, see Y2212, Y2222, Y2232, Y2242, Y225	Y41	2	1 yr.	6*	SE	FS*, WG&F*, WSF*, BLM, NPS, private landowners, public	Administrative costs			
M3	Make recommendations on 7,025 acres on private and state lands within the Targhee National Forest relative to conservation of grizzly bears; alternatives include purchase, trade, or a cooperative extension service, see Y2212, Y2222, Y2232, Y2242, Y225	Y421	1	1 yr.	6*	SE	IF&G*, FS* NPS, BLM, private landowners, public	Administrative costs			
O4	Resolve differences in agency stratification and management direction on 38,000 acres of habitat on the Targhee National Forest; research recommends MS2 be reviewed for MS1 designation	Y422	2	1 yr.	6	SE	FS*, IF&G*, NPS, BLM Independent research biologists, public	Costs are included in ongoing programs; commitments and understandings on controversial issues must be resolved via meetings or other means of communications			

3rd

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY	PLAN TASK	TASK	PRIORITY	TASK DURATION	RESPONSIBLE AGENCY*			FISCAL YEAR COSTS (EST) (Yr. following Plan approval)			COMMENTS
					FWS REG.	PROGRAM	OTHER	1ST YR	2ND YR	3RD YR	
(1)	(2)	(3)	(4)	(5)	(6)	(6a)	(7)	(8)			(9)
M3	Make recommendations on 3,820 acres of private and state lands within the Bridger-Teton National Forest relative to conservation of grizzly bears; alternatives include purchase, trade, or a cooperative extension service, see Y2212, Y2222, Y2232, Y2242, Y2241	Y431	2	1 yr			FS*, WG&F* WSF*, private landowners BLM, public	Administrative costs			
O4	Resolve differences in agency stratification and management direction on approximately 9,300 acres of occupied habitat on the Bridger-Teton National Forest. MS2 to MS1	Y432	1	1 yr	6	SE	FS*, WG&F*, NPS, BLM, independent research biologists, public	Costs are included in ongoing programs; commitments and understandings on controversial issues must be resolved via meetings or other means of communication			
I2	Stratify according to grizzly bear use and needs, 176,000 acres of Gallatin National Forest and determine management direction. Consideration for management direction equivalent to MS3 in "Guidelines" should be given for certain areas along highways and in high public use areas	Y441	1	2 yr	6	SE	FS* NPS, MFW&P, private landowners, public MDSL	10,000	10,000	-0-	

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY* FWS REG. (6)	PROGRAM (6a)	OTHER (7)	FISCAL YEAR COSTS (EST) (Yr. following Plan approval) 1ST YR (8)	2ND YR	3RD YR	COMMENTS (9)
04	Review 20,000 acres of area between Taylor Fork and Muddy Creek along the Gallatin-Madison Divide for inclusion in occupied grizzly habitat. See final environmental statement for Buck Creek-Yellow Mules area	Y442	2	1 yr.	6	SE	FS* MFW&P MDSL, private landowners public	1,000	-0-	-0-	
04	Review differences in agency stratification and management direction on approximately 20,000 acres of occupied habitat; unspecified management designation to MS1	Y443	1	1 yr.			FS*, NPS, MFW&P, public private landowners	Costs are included in ongoing programs; mutual agreements and understandings on controversial issues must be resolved via meetings, etc.			
M3	Make recommendations on 33,000 acres of private and state lands within the Gallatin National Forest relative to conservation of grizzly bears; alternatives include purchase, trade, or through a cooperative extension service, see Y2212, Y2222, Y2232, Y2242, Y225.	Y444	2	1 yr.			FS*, MFW&P*, MDSL*, BLM, public, private landowners	Costs are included in ongoing programs; controversial issues can be resolved via meetings and other communications			

P. III

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY* FWS REG. (6)	RESPONSIBLE AGENCY* PROGRAM (6a)	RESPONSIBLE AGENCY* OTHER (7)	FISCAL YEAR COSTS (EST) (Yr. following Plan approval) 1ST YR (8)	2ND YR	3RD YR	COMMENTS (9)
H3	Make recommendations on 2,000 acres of state**and private lands within the Custer National Forest relative to conservation of grizzly bears; alternatives include purchase, trade, or through a cooperative extension program, see Y2212, Y2222, Y2232, Y2242,Y225	Y45	2	1 yr.			FS*, MFW&P*, MDSL*, private landowners, public	Administrative costs			
I2	Stratify according to grizzly bear use and needs of all BLM administered lands within the occupied range of grizzly bears in Idaho and Montana; determine management direction	Y481 Y482	2	2 yr.			BLM* MFW&P, public private landowners, IF&G	5,000	5,000	-0-	
I2	Identify all state and private lands within occupied grizzly bear range, stratify in terms of use and importance, and determine management direction necessary for species recovery.	Y49	2	2 yr.	6*	SE	MFWYP*, WG&F* IF&G*, FS, BLM, MDSL, IDSL, WSF	Costs included in duties of the Grizzly Bear Recovery Coordinator with assistance from all agencies			
O4	Coordinate, monitor, and report on activities, meetings and communications relative to resolving differences and determining management direction for grizzly bear habitat designation; monitor compliance with recovery plan	Y49a	2	continuous	6*	SE	 MDSL, IDSL, FS, WSF, public, WG&F, private landowners IF&G, BLM, NPS, MFW&P	Include in duties of the Grizzly Bear Recovery Plan Coordinator Administrative costs			

* *Unknown

I ' III

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY* FWS REG. (6)	RESPONSIBLE AGENCY* PROGRAM (6a)	RESPONSIBLE AGENCY* OTHER (7)	FISCAL YEAR COSTS (EST) (Yr. following Plan approval) 1ST YR (8)	FISCAL YEAR COSTS (EST) 2ND YR	FISCAL YEAR COSTS (EST) 3RD YR	COMMENTS (9)
R1	Develop and conduct intensive monitoring system for determining population parameters prior to recovery and an extensive population monitoring system for use following recovery; conduct habitat surveys to refine current delineations and habitat stratification	Y511 Y521 Y531	1	8 yr.	6*	SE	NPS* FS* WG&F MFW&P IF&G BLM, public private research	250,000 60,000 35,000 25,000 25,000 5,000	250,000 60,000 35,000 25,000 25,000 5,000	250,000 60,000 35,000 25,000 25,000 5,000	
I4	Collate, analyze, compare and report on research data and techniques used to evaluate recovery progress and plan compliance	Y512	2	continuous	6*	SE	IF&G, NPS MFW&P, IDSL FS, BLM, WG&F, MDSL, WSF, private landowners, public	Include in duties of the Grizzly Bear Recovery Coordinator			
O4	Standardize observation report form and encourage agencies to use them; verification and dissemination of reports	Y513	3	continuous	6*	SE	FS, BLM, WG&F, NPS, MFW&P, IF&G, MDSL, WSF, IDSL, public, private landwoners	Include in duties of the Grizzly Bear Recovery Coordinator Administrative costs			

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY	PLAN TASK	TASK	PRIORITY	TASK DURATION	RESPONSIBLE AGENCY*			FISCAL YEAR COSTS (EST) (Yr. following Plan approval)			COMMENTS
					FWS REG.	PROGRAM	OTHER	1ST YR	2ND YR	3RD YR	
(1)	(2)	(3)	(4)	(5)	(6)	(6a)	(7)	(8)			(9)
04	Standardize procedures and report	Y522	3	continuous	6*	SE	Public, NPS FS, MFW&P, BLM, private research	Included in costs of Grizzly Bear Recovery Coordinator			
I3	Refine habitat delineation and classification of habitat; establish a quality index of habitat components; establish a benchmark of present habitat values to measure effects over time (before and after recovery) monitor changes in habitat due to human use prior to recovery	Y532 Y5321 Y5322 Y5323 Y5324	3	3 yr.	6	SE	FS* NPS* WG&F, IF&G MFW&P, MDSL IDSL, WSF	25,000 40,000	25,000 40,000	25,000 40,000	
04	Submit an annual report to effected or cooperating agencies and individuals on management practices used successfully to improve grizzly bear habitat	Y5325	3	continuous	6	SE	FS* NPS* BLM* MFW&P, WG&F IDSL, WSF, IF&G	500 500 100	500 500 100	500 500 100	
I2	Inventory and map changes in habitat components periodically and continued evaluation of changes in habitat to measure cumulative effects over time following recovery	Y541 Y542	3	continuous			FS*, NPS,* BLM*, MDSL*, WSF*, IDSL*, MFW&P, WG&F IF&G, public private landowners	Costs to be estimated at time of recovery			

PAR II

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY*			FISCAL YEAR COSTS (EST) (Yr. following Plan approval)			COMMENTS (9)
					FWS REG. (6)	PROGRAM (6a)	OTHER (7)	1ST YR (8)	2ND YR	3RD YR	
O4	Coordinate ongoing activities and monitor plan compliance	Y543	2	con-tinuous	6*	SE	WG&F, BLM, FS, IF&G, MFW&P, NPS public, private landowners	Costs included in Grizzly Bear Recovery Coordinator			
M3	Manage populations and habitats on federal lands prior to recovery	Y61	1	con-tinuous			WG&F*, IF&G*, FS*, NPS*, BLM*, MFW&P* Public	Administrative costs			
M5	Develop and refine procedures for relocating grizzlies expeditiously; continue search for new release area	Y611 Y6111	2	2 yr.	6*	SE ADC	MFW&P*, WG&F*, IF&G*, NPS*, FS, BLM, Public	Assign to Grizzly Bear Recovery Coordinator; continue present administrative meetings			
R4	Research and develop methods to rehabilitate problem bears	Y6112	2	un-known	6*	SE	WG&F*, IF&G* MFW&P*, NPS* FS, BLM Public	Contract for the necessary research at a university with the capabilities to hold the test bears and to observe their training behavior under the most natural conditions			
M2	Develop and coordinate procedures for re-introduction of bears into areas of former habitat or into areas of low densities outside the YGBE that need a population infusion	Y6113	3	un-known	6*	SE	FS*, NPS*, WG&F*, IF&G*, MFW&P*, WWD*, Wildlife agencies of other states* Public, adjacent landowners	Starting with a joint meeting of all interested states, determine areas available and interest of the general public			

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY* FWS REG. (6)	RESPONSIBLE AGENCY* PROGRAM (6a)	RESPONSIBLE AGENCY* OTHER (7)	FISCAL YEAR COSTS (EST) (Yr. following Plan approval) 1ST YR (8)	2ND YR	3RD YR	COMMENTS (9)
M5	Control nuisance grizzly bears	Y612	1	continuous	6*	ADC	MFW&P*, NPS* WG&F*, IF&G*, FS, BLM	Costs included in Y2114 and Y2116			
M3	Manage populations and habitat prior to recovery by developing guidelines for state and private lands to maintain or enhance habitat by recommending land use activities compatible with grizzly bear requirements; minimize potential for problems relative to grizzly bears	Y62	2	continuous	6*	SE	WSF*, MDNRC* MFW&P*, WG&F*, IF&G*, WSF* IDSL*, MDSL* FS*, BLM*, DNRC* public, private landowners	Administrative costs			
M3	Manage population and habitats on all lands following recovery, refine control methods, harvest quotas and develop a coordinated system for sport hunting on non-park land	Y63	3	continuous	6*	SE	WG&F*, MFW&P* MDNRC*, IF&G* WSF*, IDSL* MDSL*, BLM* Public	Administrative costs			
M3	Intensify management and monitoring of sheep allotments in grizzly bear range	Y631	1	continuous			FS* BLM* Public, all agencies	5,000 Unknown if applicable	5,000	5,000	
I2	Establish baseline data on grizzlies in areas where construction permits are to be considered	Y632	1	unknown			All agencies, public	Necessary studies should be funded by appropriate agency			

PART II

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY*			FISCAL YEAR COSTS (EST) (Yr. following Plan approval)			COMMENTS (9)
					FWS REG. (6)	PROGRAM (6a)	OTHER (7)	1ST YR (8)	2ND YR	3RD YR	
I1	Monitor radio-tagged grizzly bears in areas where permits issued are impacting grizzly bears	Y63	1	un-known			FS*, all agencies, public	Necessary studies should be funded			
I14	Sample and evaluate public attitudes toward grizzly bears	Y71 Y712	3	1 yr	6*	SE PA	media, public all agencies	30,000 Future costs to be included in National Hunting and Fishing Survey conducted every 5 years	-0-	-0-	
I14	Sample and evaluate attitudes of persons residing in or adjacent to grizzly bear management areas	Y711	3	1 yr			WG&F* IF&G* MFW&P* All agencies, media	4,000 3,000 6,000	-0- -0- -0-	-0- -0- -0-	
O1	Formulate ways to improve public attitudes and acceptance of habitat protection, research and management relative to grizzly bears	Y72	3	con-tinuous	6*	PA	MFW&P*, IF&G* WG&F*, private conservation organizations	Increase numbers of articles concerning grizzly bears in agency publications (Montana Outdoors, Wyoming Wildlife, Audubon Leader, etc.) and increase use of public information programs, both regional and national. National conservation organizations are in the most favorable position to launch a nationwide program			

PART III

YELLOWSTONE GRIZZLY BEAR ECOSYSTEM

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK (3)	PRIORITY (4)	TASK DURATION (5)	RESPONSIBLE AGENCY*			FISCAL YEAR COSTS (EST) (Yr. following Plan approval)			COMMENTS (9)
					FWS REG. (6)	PROGRAM (6a)	OTHER (7)	1ST YR (8)	2ND YR	3RD YR	
01	Inform citizens having grizzly bear problems of appropriate procedures and contacts for immediate assistance	Y72	2	continuous	6*	SE ADC		Include in duties of Grizzly Bear Recovery Coordinator, use public assistance programs, news releases			
							MFW&P	Include in I & E programs			
							WG&F	Include in I & E programs			
							IF&G	Include in I & E programs			
							all other agencies				
04	Appoint a Grizzly Bear Recovery Coordinator to collate relevant data, coordinate and stimulate agency compliance, and report to all agencies as necessary	Y8	2	continuous	6*	SE	All agencies	50,000	50,000	50,000	
03	Revise appropriate federal and state regulations to facilitate implementation of actions necessary for species recovery	Y9	1	unknown	6*	LE SE	WG&F*, IF&G* MFW&P*, FS, BLM, WSF, MDSL DNRA and other appropriate agencies	Administrative costs			

NOTE: Cost estimates are recommended only and were derived from present cost estimates of ongoing studies. The recovery plan recognizes that funding constraints of state and federal agencies may preclude blanket acceptance.

Northern Rocky Mountain Wolf
Recovery Plan
(Revised Agency Review Draft)

Encl. I-2

NORTHERN ROCKY MOUNTAIN WOLF

RECOVERY PLAN

Prepared by the
Northern Rocky Mountain Wolf Recovery Team

Team Members

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Encl. 1-3

This is an agency review draft of the revised Northern Rocky Mountain Wolf (NRMW) Recovery Plan. It is not an official government document and has not been approved by the U.S. Fish and Wildlife Service (FWS) or any other agency. This draft does not necessarily represent official positions of the FWS or any other agencies (and it does not necessarily represent the views of all recovery team members/all individuals involved in the plan formulation). It has been prepared by the Northern Rocky Mountain Wolf Recovery Team, which was appointed by the FWS. The plan outlines reasonable actions the team believes are required for recovery of the wolf in the northern Rocky Mountains of the contiguous 48 States in accordance with the Endangered Species Act (ESA) of 1973. This proposal is subject to modification following review and receipt of comments by cooperating agencies and other informed and interested parties. Goals and objectives will be attained and funds expended contingent upon appropriations, priorities, and other personnel and budgetary constraints.

Literature citation should read as follows:

U.S. Fish and Wildlife Service. 1984. Agency Review Draft Revised Northern Rocky Mountain Wolf Recovery Plan. Prepared by the Northern Rocky Mountain Wolf Recovery Team. USFWS, Denver, CO.

Additional copies of this agency review draft may be obtained from:

The Office of Endangered Species
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, CO 80225

Encl. 1-4

PART II

RECOVERY

Primary objective: To remove the NRMW from the endangered and threatened species list by securing and maintaining at least 30 breeding pairs dispersed over 3 recovery areas with a minimum of 10 breeding pairs maintained in each of 3 recovery areas for a minimum of 3 successive years.

Secondary objective: To reclassify the NRMW to threatened status over its entire range by securing and maintaining at least 20 breeding pairs with a minimum of 10 breeding pairs maintained in each of 2 recovery areas for 3 successive years.

Step-down Outline (This Section outlines those actions (tasks) needed to recover the species. Further details on each task are provided in the Narrative Section page 21.>

1. Determine the present status and distribution, and devise a systematic approach for compiling observations.

    11. Encourage State and Federal agencies to use standard reporting procedures.

    12. Make information on standard procedures for reporting wolf observations available to the public.

    13. Designate personnel to forward reports.

2. Establish population goals for a threatened and fully recovered population, and reclassify or delist when these parameters are reached.

    21. Identify population parameters needed to down-list.

    22. Identify population parameters needed to delist.

    23. Reclassify and/or delist when parameters are reached or revise goals as necessary.

3. Delineate recovery areas, identify and develop conservation strategies, and management plans to insure perpetuation of the NRMW.

    31. Establish criteria for selecting potential wolf recovery areas.

    32. Describe and map potential wolf recovery areas.

        321. Delineate northwestern Montana recovery area.

        322. Delineate Idaho recovery area.

        323. Delineate Yellowstone recovery area.

33. Identify conservation strategies for each recovery area.

- 331. Promote wolf conservation in northwest Montana via natural recolonization.
  - 331-1. Establish a cooperative program with Canada to promote wolf immigration to the northwest Montana recovery area.
  - 331-2. Monitor the status of dispersing Canadian wolves.
  - 331-3. Secure and promote the establishment of colonizing wolves in recovery area.
- 332. Promote wolf conservation in central Idaho via natural recolonization.
  - 332-1. Establish a cooperative program with Canada to promote wolf immigration to the central Idaho recovery area.
  - 332-2. Delineate movement corridors between Canada and the Idaho and the northwestern Montana recovery areas.
  - 332-3. Monitor the status of dispersing Canadian wolves.
  - 332-4. Secure and promote the establishment of colonizing wolves in recovery area.
- 333. Promote wolf conservation in the Yellowstone area.
  - 333-1. Designate wolves to be translocated into the Yellowstone wolf recovery area as an experimental population.
  - 333-2. Develop and promulgate special regulations for management of an experimental population in the Greater Yellowstone area.
  - 333-3. Develop a detailed reestablishment plan that considers a variety of translocation techniques.
    - 333-31. Identify a reliable source of wolves for transplant on a sustained basis.
    - 333-32. Evaluate and select appropriate transplant methods.
    - 333-33. Evaluate and apply other methods as they become available.
    - 333-34. Evaluate and select optimum transplant site(s).
    - 333-35. Outline time table for transplants and monitoring of released individuals.
  - 333-4. Promote public understanding and acceptance of the reestablishment program.

333-5. Translocate wolves to Yellowstone National Park.

333-6. Monitor reestablishment efforts and effects.

34. Establish management zones to provide for wolf recovery and minimize wolf-human conflicts.

35. Delineate wolf management zones in each of the three recovery areas.

36. Develop management guidelines for wolf management zones.

37. Develop and implement a wolf control/contingency plan for dealing with nuisance wolves.

371. Develop criteria for determining problem wolves.

372. Develop criteria for disposition of problem wolves.

373. Develop expertise in conducting wolf control.

374. Obtain advance authority to release wolves captured in control actions and identify release sites.

375. Control wolves determined to be a problem by livecapturing and relocating or by lethal methods.

38. Coordinate multiple-use activities with wolf biological requirements.

381. Promote wolf recovery objectives in the land use planning.

381-1. Inform land managers of existing or potential wolf range.

381-2. Eliminate or minimize conflicts between the NRMW and other land uses in such land management plans.

382. Apply guidelines developed under Task 36 to wolf management zones developed under Task 35.

382-1. Manage wildlife/prey habitat.

382-2. Monitor wildlife harvests.

382-3. Monitor animal damage control (ADC) programs.

382-4. Monitor range management.

382-5. Monitor timber harvesting and fire management.

382-6. Monitor recreation.

382-7. Monitor minerals, energy exploration/development.

382-8. Monitor special use activities.

382-9. Assess cumulative effects.

39. Provide concerted law enforcement effort and if feasible, develop and implement procedures for reparations for damages.

4. Monitor gray wolf populations, habitat, and prey.

41. Monitor population recovery.

411. Monitor wolf reports.

412. Conduct wolf surveys.

412-1. Encourage reporting of wolf observations by the public.

412-2. Conduct winter surveys during breeding season to determine presence of wolves.

412-3. Conduct summer surveys.

413. Monitor known wolf populations.

413-1. Determine size of home range for packs, pairs, and individual wolves.

413-2. Estimate numbers of packs, pairs, or individual wolves in each area.

413-3. Estimate pup/adult ratios.

413-4. Estimate numbers of litters and litter sizes.

413-5. Determine population trends over time.

42. Periodically review wolf habitat stratifications (wolf management zones) and revise as necessary.

43. Obtain accurate knowledge concerning wolf populations, use of prey, habitat requirements, and interactions with and effects on other carnivores.

431. Obtain accurate information on areas occupied by wolves.

431-1. Determine locations of dens and other critical areas.

431-2. Determine relationships of territories to each other.

431-3. Determine relationships of territories to seasonal ranges of prey.

431-4. Determine characteristics of areas used by wolves.

431-5. Determine relationships of known wolf use areas to types of human activity taking place in or near those areas.

431-6. Determine effects of wolves on other carnivores.

431-7. Estimate wolf carrying capacity in each area.

432. Obtain knowledge of prey requirements and effects on prey species.

432-1. Determine prey requirements, prey composition, rate of predation, and seasonal variation in predation and predatory behavior.

432-2. Determine effects on prey, structure of prey population(s), and structure of kill.

433. Assemble a knowledge of environmental requirements of prey species.

433-1. Determine carrying capacity.

433-2. Determine seasonal ranges.

433-3. Determine population trends.

433-4. Determine needs for habitat improvements.

434. Compare with knowledge obtained in other areas.

434-1. Conduct a literature search.

434-2. Confer with other biologists currently carrying out studies.

434-3. Maintain a literature and information file.

44. Develop special regulations for threatened populations.

45. Develop State regulations for delisted populations.

5. Develop and initiate information and education programs.

51. Demonstrate that the wolf is part of natural history and endangered.

511. Produce movies, TV programs, slide series, and popular literature.

512. Explain wolf ecology and management.

513. Publish technical data.

52. Educate the public and other agencies concerning ESA and State laws.

521. Publicize legal protection and penalties for killing an endangered wolf.

522. Identify States where wolves are in non-protected categories.

523. Encourage States to enact wolf management measures.

53. Inform public of recovery efforts and progress.

54. Work with the livestock industry.

NARRATIVE

Primary objective: To remove the NRMW from the endangered and threatened species list by securing and maintaining at least 30 breeding pairs dispersed over three recovery areas with a minimum of 10 breeding pairs maintained in each of three recovery areas for a minimum of 3 successive years.

Secondary objective: To reclassify the NRMW to threatened status over its entire range by securing and maintaining at least 20 breeding pairs with a minimum of 10 breeding pairs maintained in each of two recovery areas for a minimum of 3 successive years.

The above goals were developed based on the most current information and the opinions of recovery team members other "experts" on the species, and the FWS. They represent the best available estimate of the minimum numbers and populations necessary to recover and ensure perpetuation of the wolf. These goals will be revised as necessary if new information becomes available.

The figure of 30 breeding pairs was established after extensive literature review and consultation with a number of U.S. and Canadian biologists/wolf researchers. Based on the most current information, it was concluded that 30 breeding pairs were sufficient and would constitute a viable, self-sustaining population.

Review of the former range of the NRMW has identified three geographic areas where wolf occurrence and recovery is feasible. Goals established in the earlier approved recovery plan called for reestablishment and maintenance of at least two separate populations before downlisting to threatened status. Also, there is no current biological evidence to indicate that two populations are sufficient to constitute recovery. Thus, it seems a natural progression and biologically appropriate to require establishment of three distinct populations as criteria for delisting the NRMW. In addition, the potential for wolf recovery does exist in the Yellowstone area. However, for this potential and thus the wolf's chances for survival to be maximized, land and wildlife management agencies need solid, clearcut direction in order to adequately consider wolf recovery objective in their own planning and management processes.

1. Determine the present status and distribution of gray wolves in the northern Rocky Mountains, and devise a systematic approach for compiling observations and other data on the NRMW. Obtaining a clear understanding of where and under what conditions wolves currently occur is essential to implementation of management efforts and development of long-range plans.

11. Encourage State and Federal agencies to use standard reporting procedures. State and Federal agencies should be encouraged to use standard reporting procedures in order to facilitate tracking and following up on wolf sightings. Standard reporting forms have been developed and distributed.

12. Make information on standard procedures for reporting wolf observations available to the public. Agencies should inform interested groups, organizations, and individuals on standard reporting procedures and encourage their participation in reporting reliable observations.

13. Designate personnel to forward reports. Each National Forest, National Park, BLM district, etc., should designate a qualified person to forward wolf reports to the FWS for evaluation.

2. Establish population goals for a threatened and fully recovered population, and reclassify and delist the wolf when these parameters are reached. Population goals should be developed that, when achieved, will provide for reclassification of the NRMW from endangered to threatened status and eventual delisting. The NRMW should be reclassified or delisted when appropriate population levels and/or parameters are achieved.

Down-listing may be proposed through petitioning of the FWS by the recovery team, resource agencies, or private individuals when the population parameters are reached. Delisting may also be proposed through petitioning of the FWS by the recovery team, resource agencies, or private individuals when the population parameters described in the primary objective are achieved. Goals should be reevaluated and revised as, or if, new information becomes available.

21. Identify population parameters needed to down-list. The NRMW will be considered eligible for reclassification to threatened status over its entire range when two wolf recovery areas each have populations consisting of 10 breeding pairs for a minimum of 3 consecutive years.

22. Identify population parameters needed to delist. The NRMW will be considered eligible for delisting when a total of 30 breeding pairs of wolves are established in three recovery areas for a minimum of 3 successive years. A minimum of 10 breeding pairs must be present in each of the three recovery areas.

23. Reclassify and/or delist the NRMW when appropriate population levels are reached or revise goals as necessary. As stated above, reclassification or delisting may be proposed when the population parameters described under Tasks 21 and 22 are achieved. These goals should be reevaluated as new information becomes available and revised as needed.

3. Delineate recovery areas, identify and develop conservation strategies and a management plan(s) to ensure perpetuation of the NRMW. Specific areas should be identified as wolf recovery areas based on the various criteria and considerations outlined under Task 31. Management plans should be developed to provide guidance to land and wildlife managers on managing habitat, prey species, and wolves.

31. Establish criteria for selecting potential wolf recovery areas. Basic criteria that should be used in selection of recovery areas include: (1) presence of an adequate natural prey base on a year-round basis; (2) a minimum contiguous area of 3000 square miles, or a lesser area if adjacent available lands that could support wolves exceed 3000 square miles in the aggregate; (3) no more than 10 percent private land, excepting railroad grant lands; (4) if possible, absence of livestock grazing or little possibility for conflict; and (5) sufficient isolation to protect 10 breeding pairs.

32. Describe and map potential wolf recovery areas. General descriptions and maps should be used to delineate the areas, based on biological parameters, within which recovery of viable wolf populations should be confined.

    321. Delineate northwestern Montana recovery area. The northwestern Montana recovery area is to incorporate Glacier National Park, designated wilderness areas (Bob Marshall, Great Bear, Lincoln-Scapegoat), and adjacent public lands on which the majority of recent wolf reports originate (Fig. 2).

    322. Delineate Idaho recovery area. The Idaho wolf recovery area is to incorporate designated wilderness areas (Selway-Bitterroot, Gospel Hump, River of No Return, Sawtooth), plus proposed wilderness areas (Mallard-Larkin, Moose Buttes, Great Burn), and adjacent lands, mostly Federal, on which the majority of the recent wolf reports in Idaho originate (Fig. 2).

    323. Delineate Yellowstone recovery area. The Yellowstone Recovery area is to incorporate Yellowstone National Park, designated wilderness areas (Absaroka Beartooth, North Absaroka, Washakie, Teton) and adjacent public lands (Fig. 2).

33. Identify conservation strategies for each recovery area. Viable wolf populations have been absent from the northern Rocky Mountains for 40-50 years. Natural recolonization of appropriate area(s) by wolves would be a desirable means for achieving wolf recovery. However, the few wolves immigrating periodically from southwestern Canada have apparently not been successful in effectively recolonizing central Idaho or northwestern Montana up to this time, although pack activity has now been noted in Montana. However, if wolf populations in southeastern British Columbia and/or southwestern Alberta increase sufficiently to promote a number of dispersers and if travel corridors are maintained, natural recolonization of central Idaho and northwestern Montana assumes a much greater probability. Regardless, natural recolonization of the Yellowstone area remains an extremely remote possibility. From a wolf recovery perspective, translocating wolves to the Yellowstone area is appropriate now. If monitoring of wolf status in northwestern Montana and/or central Idaho does not indicate satisfactory progress two breeding pairs) by natural recolonization within 5 years, then other conservation strategies should be identified and implemented for these areas as well.

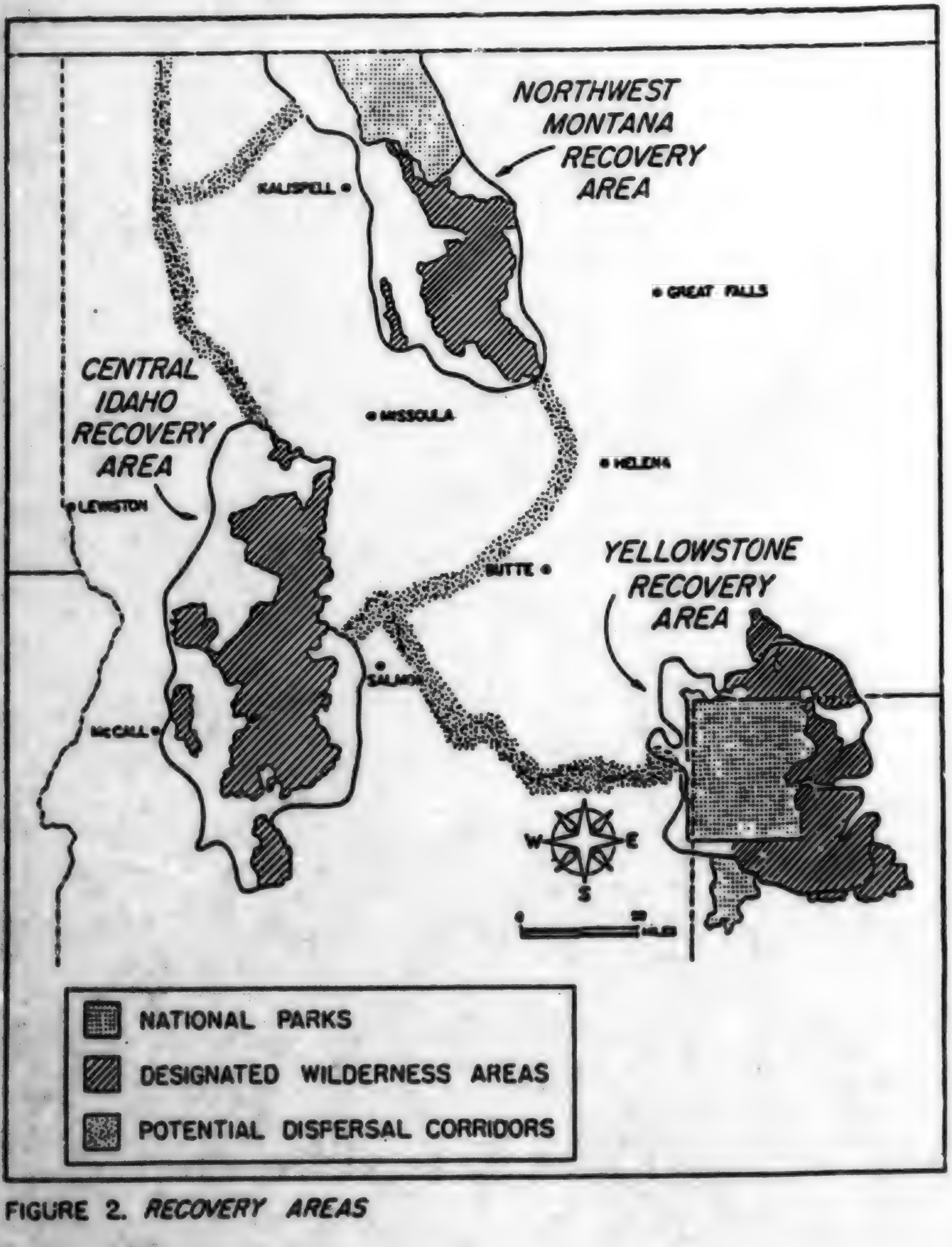

FIGURE 2. *RECOVERY AREAS*

331. Promote wolf conservation in the northwest Montana recovery area via natural recolonization from southwestern Canada. Recovery here will likely lead the way to other areas as well as provide the basis for both rational and emotional first judgments about recovery.

331-1. Establish a cooperative program with Canada. A cooperative effort should be established with Canada to encourage management practices favorable to the wolf (i.e., providing sufficient wolf habitat, travel corridors, and populations in southeastern British Columbia and/or southwestern Alberta to promote wolf immigration into the northwest Montana recovery area).

331-2. Monitor the status of dispersing Canadian wolves. Dispersing wolves should be carefully monitored by both Canadian and U.S. biologists to assure proper management and protection policies are implemented.

331-3. Secure and promote the establisiment of colonizing wolves in recovery area. Habitat should be managed to maintain or increase prey species and thus promote establishment of wolf populations. Public information programs should be initiated to inform individuals/agencies of the facts on the wolf's biology and requirements. Once wolves are spotted in the area, increased monitoring and law enforcement efforts will be necessary.

332. Promote wolf conservation in the central Idaho recovery area via natural recolonization from southwestern Canada and possibly northwestern Montana. The possibility for natural recolonization of this area does exist if corridors are maintained and Canadian wolf populations and habitat are managed to promote such movement into Idaho.

332-1. Establish a cooperative program with Canada to promote wolf immigration into the central Idaho recovery area. A cooperative effort between the U.S. and Canada is essential to encourage management practices favorable to the wolf, providing sufficient wolf habitat, travel corridors, and populations in Canada to promote wolf immigration into central Idaho.

332-2. Delineate movement corridors between Canada and Idaho and the northwestern Montana recovery areas. Identification and maintenance of suitable travel corridors is essential to any natural recolonization by Canadian wolf populations. Management to maintain the essential qualities of such areas should be encouraged.

332-3. Monitor the status of dispersing Canadian wolves. See Narrative Task 331-2.

332-4. Secure and promote establishment of colonizing wolves in the recovery area. See Task 331-3.

333. Promote wolf conservation in the Greater Yellowstone area. The probability of natural reestablishment of wolves in the Yellowstone Ecosystem is extremely remote. Translocation of wolves into the area appears to be the only viable method of establishing and recovering a population at this time. The 1982 Amendments to the ESA (Pub. L. 97-304) provide for the designation of "experimental populations," a special category allowing endangered and threatened species to be reintroduced within their historic range with provisions for additional management flexibility. An experimental population designated as "essential" to the survival of a species would be treated as a "threatened" species under the provisions of the ESA including Section 7 even though the donor population may currently be listed as endangered. Such designation would include formulation of a special rule identifying procedures to be utilized in management of the species. These regulations may also authorize special activities designed to contain the population within the original boundaries set out in the regulation and to remove nuisance animals.

333-1. Designate wolves to be translocated into the Yellowstone wolf recovery area as an experimental population. Under the 1982 Amendments to the ESA, translocated populations can now be designated, at the discretion of the FWS, as experimental. Such designation will increase the FWS's flexibility to manage these translocated populations because under the Amendments, experimental populations of species otherwise listed as endangered may be treated as threatened. The FWS has much more flexibility in devising management programs for threatened versus endangered species, especially with regard to control actions.

Designation of an experimental population includes preparation and publication in the Federal Register of a proposed rule detailing the geographic location of the experimental population and identifying procedures to be utilized in its management. The rule may also authorize activities designed to contain the population within the designated boundaries or to remove nuisance animals. After the time period allotted for public and agency comment, a final rule should be developed for approval and publication in the Federal Register.

333-2. Develop and promulgate special regulations for management of an experimental wolf population in the Greater Yellowstone area. As part of the package establishing an experimental population of wolves in Yellowstone, special regulations would also be promulgated to authorize special management provisions including those allowing for control of nuisance animals and for containing the population within the designated habitat boundaries. Wolves moving outside of desired areas would be captured and returned to the recovery area or removed according to the guidelines developed under Task 36.

333-3. Develop a detailed reestablishment plan that considers a variety of translocation techniques. A detailed plan should be developed outlining the various technicalities of conducting a transplant/reintroduction program. This plan should contain specifics on and agency responsibility and timeframes for obtaining wolves for release, release techniques, release site selection, and monitoring of transplanted wolves. The process of plan development should also provide opportunity for agency and public input into the process and outline specific steps to inform the public, etc., about wolf recovery efforts.

333-31. Identify a reliable source of wolves for transplant on a sustained basis. Whatever transplant techniques are implemented, a reliable source of wolves will be needed to sustain such a program. Proper coordination and authorizations must also be initiated. Interagency and international coordination will be essential to ensure that viable wolf populations are maintained to serve as a source.

333-32. Evaluate and select appropriate transplant methods. Existing literature on past transplant efforts involving wolves (in Minnesota or other areas) should be reviewed in order to determine the best techniques. Various methods to be considered include hand-rearing pups at selected sites, holding wolves on site until acclimated, and saturation transplants, as well as using artificial scent marking to contain transplanted animals. Initially, various methods may be used to determine which is most successful.

333-33. Evaluate and apply other methods as they become available. Research on ways to improve the success of transplant efforts should continue. This would include manipulating the timing of a release, quick versus slow release, and the sex, age, and number of wolves released.

333-34. Evaluate and select optimum transplant site(s). To assure optimum success, sites with those characteristics determined essential through study and management of existing wolf populations will be used as transplant sites.

Basic criteria have been developed for selection of transplant sites obtained under Task 31. However, these criteria should be refined as more information becomes available. Transplant sites should be selected based on these criteria as well as on the security of the site and the possibility of human-related disturbance. Once selected, sites should be prioritized based on how well they meet the established criteria as well as alternate land uses/management on or surrounding the area, proposed or potential impacts, and adjacent land ownership/management.

333-35. Outline responsible agencies and time tables for transplants and monitoring of released wolves. The reestablishment plan should identify responsible agencies and timetables for all tasks involved in the transplant effort. All reintroduced wolves will be monitored in order to gain knowledge of their habits and to ensure that they remain in the recovery area.

333-4. Promote public understanding and acceptance of the reestablishment program. Public understanding and support is critical to the wolf recovery program. Implementation of recovery actions, especially a translocation program, cannot succeed without public acceptance. Up until now, lack of knowledge and misinformation have been very real factors in inhibiting the wolf recovery effort. Thus, it is essential that the public is kept informed and involved in such programs. This can be accomplished through issuing news releases and articles, holding community or public meetings, and otherwise informing people of the facts about the wolf, its ecology and needs, and the transplant program.

333-5. Translocate wolves to Yellowstone National Park. Once a reliable source of wolves has been identified and appropriate actions outlined in the management plan have been implemented, the process of reintroducing wolves should be initiated. Identification of relocation sites, coordination with involved agencies and public, and finalization of release and monitoring procedures should be completed. Wolves should be prepared for reintroduction (immunized, tagged, tattooed, and radio-collared, etc.), and released via the techniques developed under Tasks 333-32 and 333-33.

333-6. Monitor reestablishment efforts and effects. Reintroduced wolves should be monitored continually both during and prior to release. Released wolves should be tagged and fitted with radio collars. Aerial as well as ground tracking can then be used to determine movements, habitat use, and prey utilization. Recent development of a radio-triggered anesthetic-dart collar (Mech et al. 1984) should provide researchers/managers with the control needed to deal with nuisance or problem wolves.

The capture collar, which contains immobilizing darts that can be activated by a radio signal, will enable researchers to recapture reintroduced animals at will, thus expediting agencies ability to respond to depredation problems. Monitoring of prey species and other carnivores should also be conducted in order to determine the effect of introduced wolves on prey species and their interactions with other predators.

34. Establish management zones to provide for wolf recovery and minimize wolf-human conflicts using the following criteria. This plan segment outlines a management scheme for recovery of wolf populations. Basic to this segment are the protection of wolves and their habitat along with minimization wolf-human conflicts. Every attempt should be made to eliminate situations/practices in wolf habitat that may encourage depredations and/or create nuisance wolves.

Management Zone I: This zone should contain key habitat components in sufficient abundance and distribution on an annual basis to sustain 10 breeding pairs of wolves. It should generally be an area greater than 3000 contiguous square miles with less and 10 percent private land (excepting railroad grant lands) and less than 20 percent subject to livestock grazing.

Management Zone II: This zone should be established as a buffer zone between Zone I and Zone III. It should contain some key habitat components but probably not in sufficient abundance and distribution on an annual basis to sustain a viable wolf population. Zone II boundaries may be changed according to demonstrated wolf population and habitat needs, provided the change does not bring wolves into conflict with existing livestock areas/allotments.

Management Zone III: This zone contains established human activities such as domestic livestock use or other human activities or developments in sufficient degree to render wolf presence undesirable. Recognizing the problems and gaining the support of the livestock industry is extremely important to wolf recovery. To gain that support, responsible State and Federal agencies should seek additional funding for monitoring and control measures to adequately protect livestock, while still allowing for wolf recovery.

35. Delineate wolf management zones in each of the three recovery areas. Delineation of such zones can be accomplished by committees/working groups composed of FWS and other agency personnel, recovery team members or technical experts on the species, local land managers, and resource users. These groups would point out potential conflicts and make recommendations regarding management zones in each wolf recovery area to the concerned land management agencies.

36. Develop management guidelines for wolf management zones. Management guidelines developed in this section should be applied to Federal lands to make multiple-use activities compatible with wolf management objectives. On State and private lands, agencies and field personnel of agencies involved in wolf management should communicate the intent of the "Guidelines" as a cooperative extension effort.

The following criteria for developing management guidelines are suggested for public lands. The definition of "controlled" as it is used in the following paragraphs includes capture and relocation into the wild or captivity, or lethal control.

Zone I: Wolf population stabilization, wolf habitat maintenance and improvement, and wolf-human conflict minimization will be primary management objectives. Management decisions will favor the needs of the wolf when wolves or wolf habitat needs and other land-use values compete. Management practices and land uses should be planned and managed to enhance recovery of the wolf. Wolves determined to be a problem under criteria for Zone I outlined in the Wolf Control Plan may be controlled, but only as a last resort and as directed by the Regional Director, FWS, Region 6.

Zone II: The wolf is still an important but not the primary use on the area. Management will be provided tc at least maintain the habitat conditions that resulted in the area being classified as Zone II. When wolf population and/or wolf habitat use and other high-priority land uses are mutually exclusive, the other land uses may prevail in management considerations. If wolf population and/or habitat use represents needs that are so great (necessary to the normal needs or survival of the species or a segment of its population) that they should prevail in management considerations, then the area should be reclassified under Management Zone I. Reclassification to Management Zone I should not occur, however, if the change in status can be expected to result in wolf-livestock conflicts in existing livestock areas/allotments. Wolves determined to be a problem under criteria for Zone II in the Wolf Control Plan may be controlled as directed by the Regional Director, FWS, Region 6.

Zone III: Maintenance and improvement of habitat solely for wolves and minimization of wolf-human conflict potential are not management considerations. Wolf-livestock-human conflicts may be resolved by control. Any wolf involved in a livestock depredation would be controlled. Any wolf frequenting a livestock area and representing a threat to livestock as determined by qualified State wildlife agency or FWS personnel may be controlled.

37. Develop and implement a wolf control/contingency plan for dealing with nuisance wolves. This plan is to fully recognize the interests of the public and the western livestock industry. The goal of the control program is to reduce and prevent livestock losses to wolves while removing the minimum number of wolves necessary, compatible with wolf recovery. If predation on big game herds is determined to be in significant conflict with State wildlife management agency objectives, wolf control that would not jeopardize wolf recovery would be considered. Wolves in all zones may be controlled if they present as hazard to public health and safety either because of direct conflict or disease. The following criteria are suggested.

Zone I: Application of guidelines and objectives for Management Zone I is requisite before problem criteria and subsequent control can be applied to offending wolves. For example, wolves preying on livestock that were beyond allotment boundaries or where livestock carcass disposal had not followed prescribed procedures would not be classified as problem wolves and would not be controlled. Management decisions in Zone I would favor the wolf, and removal or resolution of the attractant or problem would be the first course of action. A wolf may be determined to be a problem if depredations on lawfully present domestic livestock occur in areas/habitat components that are not critically important to wolves in time or space and if all other options for resolving the conflict have been exhausted. "Depredation" is defined as the killing or maiming of a domestic animal by wolves accompanied by the threat of additional domestic animals being killed or maimed by wolves. "Area/habitat components of critical importance" include, for example, ungulate calving/fawning areas from May 1 to July 1 and ungulate winter ranges from December 1 to April 15.

Zone II: A wolf will be determined to be a problem if depredations occur on lawfully present domestic livestock. Application of guidelines and objectives for Management Zone II is requisite before problem criteria and subsequent control can be applied to offending wolves.

Zone III: Any wolf that preys on livestock will be controlled. Any wolf frequenting a livestock area and representing a threat to livestock as determined by authorized State or Federal personnel may be controlled.

371. Develop criteria for determining problem wolves. For a problem to exist in wolf-livestock relationships in Management Zones I and II, a wounded livestock animal or some remains of a livestock carcass must be present with clear evidence (Roy and Dorrance 1976) that wolves were responsible for the damage and reason to believe that additional losses would occur if the wolves were not controlled.

372. Develop criteria for disposition of problem wolves. Usually, few wolves are actually involved in verified depredations and many wolves may live near livestock without causing depredations (if wild prey is available); thus, control should be directed toward the capture of specific offending wolves rather than local populations. Investigation of complaints should occur immediately, but no later than 2-3 days after a reported incident. Control, if necessary, by trained and qualified State wildlife agency or FWS personnel should be limited in area and duration and should be selective. Control efforts should be limited to within 1 mile of the depredation site, unless the offending animal can be identified, and to a 10-day period. If depredations recur in that area within 3 months in Management Zone II, control efforts may be conducted for up to a 21-day period.

Every attempt will be made to relocate problem wolves from any zone to a predetermined area in Zone I approved by the involved State and Federal wildlife and land management agencies. Such wolves should be tattooed, ear-tagged, radio-collared, and relocated as soon as possible. The radio-triggered anesthetic-dart collar would also prove useful in this situation, as it would allow management personnel to capature at will any translocated wolf returning to the site of original depredation or near livestock areas before additional depredations occur. Glacier National Park will permit relocation of individual gray wolves within its boundaries when their lives are jeopardized by proximity to humans or livestock in Management Zones II and III. The animal must have a history free of problems, be at least 100 miles from the Park boundary when captured, and fitted with a radio collar prior to release. Such a release action should not be implemented unless an interagency monitoring agreement has been established. If initial efforts to trap a problem wolf are unsuccessful and depredations involving problem wolves continue or if, transplanted wolves continue to return to the original site and no other facilities are willing to accept such wolves, lethal control using approved methods may be used. Any wolf determined to be a problem a second time will be removed from the wild and placed in captivity or lethally controlled. If wolf populations increase beyond the capacity of available habitat and prey, consideration will be given to reclassifying the populations or otherwise liberalizing these measures based on experience. Such a proposal would be covered under an amendment to this document and undergo the appropriate review (see Task 44).

373. Develop expertise in conducting wolf control. In advance of potential conflicts, clearcut policy procedures should be established under the authority of the Regional Director, FWS, that allow authorized Federal and State personnel to live-capture and relocate, remove, or lethally control problem animals. Necessary tags, radio collars, traps, nets, cages, and immobilizing equipment needed for such actions should be stockpiled for immediate use. Key personnel should be trained in use of equipment and wolf capture techniques.

374. Obtain advance authority from land management agencies to release wolves captured in control actions and identify release sites. Arrangement/agreements should be made with the appropriate State or Federal land management agencies to establish release sites for wolves involved in control actions. Sites should be designated well in advance and all arrangements made before any wolf problems arise so that such problems can be handled immediately before any further negative impacts result.

375. Control wolves determined to be a problem by live-capturing and relocating or by lethal methods. Every attempt will be made to relocate problem wolves or to place in captivity those animals which must be removed from the area. Before control actions are initiated, problem status must be determined by the

criteria listed in the control plan. Criteria for determining the method of disposition of problem wolves will also be outlined in the control plan developed under Task 37. This course of action is essential for acceptance of the recovery program and survival of the wolf in the northern Rockies.

38. Coordinate multiple-use activities with wolf biological requirements. Every effort should be made to coordinate multiple-use activities that may limit wolf populations through direct or indirect mortality, direct or indirect adverse habitat modifications, and/or reductions of prey species with wolf habitat and biological requirements.

381. Promote wolf recovery objectives in the land-use planning process. Encourage appropriate land management agencies to incorporate objectives set in this recovery plan for the NRMW into their land-use planning systems.

381-1. Inform land managers of existing or potential wolf range. Keep land management agencies and personnel informed of occupied and potential habitat and habitat needs for the NRMW for consideration in their long-range and short-term planning efforts.

381-2. Eliminate or minimize conflicts between the NRMW and other land uses in land management plans. Provide the necessary management guidelines (Task 36), or, where applicable, coordinate requirements (Task 38) to enhance or maintain habitat for the NRMW with regard to other uses and activities prescribed in various land management plans.

382. Apply guidelines developed in Task 36 to wolf management zones developed in Task 35, and prosecute persons whose illegal actions place wolves in jeopardy.

382-1. Manage wildlife/prey habitat. Assure that big game and secondary prey habitats, including riparian areas, are managed to sustain a prey base adequate to support a recovered wolf population.

382-2. Monitor wildlife harvests. Assure that big game and beaver populations are maintained at population levels adequate to maintain 10 breeding pairs of wolves in each recovery area.

382-3. Monitor animal damage control (ADC) programs. Assure that ADC activities are compatible with wolf management objectives.

382-4. Monitor range management. Coordination and monitoring is essential to assure that livestock operations and wolf management are compatible. If unauthorized grazing or other illegal actions by permitees place wolves in jeopardy, every effort should be made to remedy the situation including cancelling grazing permits or filing charges in Court.

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382-5. Monitor timber harvesting and fire management. Make logging and fire management compatible with wolf spatial and habitat requirements.

382-6. Monitor recreation. Make recreational activities compatible with wolf spatial and habitat requirements.

382-7. Monitor minerals, energy exploration/development. Make mining and energy operations compatible with wolf spatial and habitat requirements.

382-8. Monitor special uses. Assure that activities requiring special use permits are made compatible with wolf spatial and habitat requirements.

382-9. Assess cumulative effects. Coordinate, in time and space, multiple-use activities to avoid adverse cumulative impacts.

39. Provide concerted law enforcement effort and, if feasible, develop and implement procedures for reparations for damages. Reparations may be less expensive than relocation efforts and may be intermittent. Liaison with livestock industry is essential.

4. Monitor gray wolf populations, habitat, and prey. Monitoring of wolf populations, habitat, and prey species is critical if we are to adequately manage and recover the wolf.

41. Monitor population recovery.

411. Use a report monitoring system to determine presence of wolves, particularly in areas that become newly occupied. Sightings should be solicited from the public as well as from biologists/outdoorsmen working in the area.

412. Conduct wolf surveys in areas of consistent wolf reports to verify the presence of wolves and their relative abundance. Surveys should be conducted in areas where wolf sightings have occurred consistently or where wolf presence is highly suspected.

412-1. Encourage reporting of wolf observations by the public. Maintain contacts with local residents, and enlist their aid in reporting observations of wolves and their sign.

412-2. Conduct winter surveys during breeding seasons to determine presence of wolves. Winter surveys should be conducted to detect evidence of pairs, packs, estrous females, and mating or pairing activity.

412-3. Conduct summer surveys. Summer surveys should be conducted in areas of suspected mating activity. Howling surveys and presence of tracks will help to verify breeding success.

413. Monitor known wolf populations. A substantial research effort involving radio tracking will be required to estimate population sizes and trends.

413-1. Determine size of home range for packs, pairs, and loners.

413-2. Estimate numbers of packs, pairs, and loners in each area.

413-3. Estimate pup/adult ratios.

413-4. Estimate numbers of litters and litter sizes.

413-5. Determine population trends over time.

42. Periodically review wolf habitat stratification (wolf management zones) and revise as necessary. Stratification of the various zones in each of the three recovery areas should be periodically reviewed to determine if adjustments are required to meet wolf recovery objectives and to avoid wolf-livestock conflicts.

43. Obtain accurate knowledge concerning wolf populations, their use of prey, habitat requirements, and interactions with and effects on other carnivores. Studies in the core of each recovery area are essential because performance there will determine what happens in outlying areas. These data will be needed for proper management. Long-term studies are essential because relatively little is known concerning wolves in the Rocky Mountains.

431. Obtain accurate knowledge of areas occupied by wolves. Knowledge concerning territory sizes, seasonal patterns of use, and relationships to prey ranges and areas of human use is important, particularly in a minimally populated wolf range. Ecological studies utilizing radio-tagged wolves are needed.

431-1. Determine locations of dens and other critical areas.

431-2. Determine relationships of territories to each other.

431-3. Determine relationships of territories to seasonal ranges of prey.

431-4. Determine characteristics of areas used by wolves.

431-5. Determine relationships of known wolf-use areas to types of human activity taking place in or near those areas.

431-6. Determine effects of wolves on other carnivores.

431-7. Estimate wolf carrying capacity in each area.

432. Obtain accurate knowledge of natural prey requirements of wolves and effects on prey. Little is known about the prey requirements of wolves in the northern Rocky Mountains. Although some information can be predicted from other studies, none are comparable in terms of prey availability.

432-1. Determine prey requirements, prey composition, rate of predation, seasonal variation in predation, and predatory behavior. Monitoring of wolves can be conducted through radio tracking, aerial surveys, etc., to determine prey requirements, composition. and seasonal variation in predation.

432-2. Determine effects of wolves on prey, structure of prey population(s), and structure of kill. Monitoring and survey efforts should be conducted to determine the effects of wolves on prey species. Such information is essential to implementing sound management practices to maintain wolves.

433. Assemble knowledge on environmental requirements of prey species. Information on environmental requirements of prey and potential prey is available and will not need to be researched further. An accumulation of these data, however, will have to be made on an area-by-area basis.

433-1. Determine carrying capacity.

433-2. Determine seasonal ranges.

433-3. Determine population trends.

433-4. Determine need for habitat improvements.

434. Compare with knowledge obtained in other areas. A knowledge of population parameters of prey species in areas where wolf predation is significant will be helpful in developing guidelines for prey management in selected recovery sites.

434-1. Conduct a literature search.

434-2. Confer with other biologists currently carrying out studies.

434-3 Maintain a literature and information file of all related information.

44. Develop special regulations for threatened populations. Once the wolf is down listed, special regulations should be promulgated to allow "take" of nuisance wolves in populations that are reclassified as threatened.

45. Develop State regulations for delisted populations. State regulations should be developed and implemented to govern the regulated hunting/trapping of delisted wolves. Upon delisting, if the wolf has not already been classified as a game animal or furbearer (or protected species), the State wildlife agencies should do so. State biologists should develop draft regulations for seasons, limits, and methods of take and submit these regulations to the appropriate State conservation commission(s) for approval. Regulations should be implemented and enforced and monitoring of numbers of permits issued, animals taken, locations of take, etc., initiated. Adjustments should be made, as necessary, in the State regulations for "taking."

5. Develop and initiate information and education programs. Success of recovery effort hinge, to a large degree, on the support and acceptance of plan objectives by the public. A strong information and education effort is necessary if public support is to be obtained. Not all segments of the public will support the concept of wolf recovery. Opposition can be reduced, however, by pointing out plan objectives which are aimed at keeping wolf management and recovery in proper perspective.

51. Demonstrate to the public that the NRMW is unique, natural, a part of our history and is endangered. An information program is essential to inform the public and involved agencies on the realities of wolf ecology recovery. The task of funding, developing and disseminating newsletters, films news releases, etc. may be coordinated through the Fish and Wildlife Service Public Affairs Office, State Conservation Offices, or private conservation groups.

511. Produce and distribute movies, TV programs, slide series, and popular literature. On the realities of wolf ecology and management.

512. Explain to interested groups and organizations the facts of wolf ecology and management.

513. Publish technical data available on wolf ecology, current status, and history.

52. Educate the public and other agencies concerning the ESA and State laws. Few people are truly aware of ESA (P.L. 93-205) and its provisions. Efforts should be made to educate both other agencies and the public regarding the protection supplied by the Act and their responsibilities under it.

521. Publicize the legal protection and penalties for killing an endangered wolf. The public must be made aware of the legal protection afforded wolves in and adjacent to the former range of C.l.irremotus and that killing an endangered wolf can involve a fine of $20,000 and 1 year in prison plus loss of equipment, leases, licenses, or permits for use of public land.

Only a small segment of the public is aware of the endangered status of the NRMW or the consequences of killing one. A concerted effort must be made to inform the public that wolves are fully protected by Federal law. Protection afforded wolves under the ESA is extensive. The possession, transportation, taking, sale, and receipt of wolves or parts thereof are covered under special regulation Part 17.40 of title 50, Code of Federal Regulations.

522. Identify States or other political subdivisions where wolves are in nonprotected categories. Work with States where wolves are classified as predators or other nonprotected categories, and notify appropriate officials concerning the ESA and its legal implications.

523. Encourage States to enact wolf management measures. Full cooperation by the States is essential to success of recovery efforts. As such, States must assume an active role in wolf management and recovery efforts.

53. Inform the public on recovery efforts and progress. Public support for the wolf recovery program is critical. Every effort should be made to assure that the public is kept up to date on ongoing recovery actions and provided the facts on the wolf and proposed activities.

54. Work with the livestock industry to integrate wolf recovery and livestock management objectives in a positive way. Effecting a viable wolf recovery program also depends on the cooperation of and coordination with local ranchers as well as the livestock industry as a whole. Land and wildlife managers must keep livestock operators informed of their responsibilities under the ESA, proper animal husbandry/management techniques, and actions to take should depredation occur, and both sides must work together in good faith to minimize wolf-livestock conflicts.

RECOVERY PLAN IMPLEMENTATION SCHEDULE WOLF

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	RESPONSIBLE AGENCY FWS PROGRAM (6a)	RESPONSIBLE AGENCY OTHER (7)	YEAR FOLLOWING PLAN APPROVAL 1st (8)	YEAR FOLLOWING PLAN APPROVAL 2nd	YEAR FOLLOWING PLAN APPROVAL 3rd	Comments (9)
IR1	Determine present status and distribution using standard reporting forms and devise a wolf data storage and retrieval system	1 (all tasks)	2	ongoing	1 & 6	SE	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	6K	5K	5K	
O4	Establish cooperative program with British Columbia and Alberta to promote wolf immigration to U.S.	331-1 332-1	1	1 year	1 & 6	SE	IF&G, MFW&P	4K			
IR1	Monitor status of dispersing Canadian wolves	331-2 332-3	1	continuous	1 & 6	SE	IF&G, MTW&P	24K	24K	24K	
M2	Secure and promote establishment of colonizing wolves	331-3 332-4	1	continuous	1 & 6	SE	BIA, BLM, FS, NPS	No cost assignment--Costs included as part of Tasks 35, 36, and 38			
O3	Designate wolves to be translocated to Yellowstone area as an experimental population, and promulgate special regulations.	333-1 333-2	1	2 years	6	SE		Administrative costs			
M1	Develop reestablishment plan	333-3 (all tasks	1	1 year	6	SE	NPS, IF&G, MFW&P, WG&F	30K			
O1	Promote public understanding and acceptance of reestablishment	333-4	1	continuous	1 & 6	SE	NPS, IF&G, MFW&P, WG&F, BLM, FS	40K	20K	20K	

RECOVERY PLAN IMPLEMENTATION SCHEDULE WOLF

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	RESPONSIBLE AGENCY FWS PROGRAM (6a)	RESPONSIBLE AGENCY OTHER (7)	YEAR FOLLOWING PLAN APPROVAL 1st (8)	2nd	3rd	Comments (9)
M1	Translocate wolves to Yellowstone	333-5	1	2 years	6	SE	NPS, IF&G, MFW&F WG&F	125K	125K		
IR4	Monitor reestablishment efforts and effects	333-6	1	continuous	6	SE	NPS, IF&G, MFW&P, WG&F	75K	125K	100K	
M4	Delineate wolf management zones in the three recovery areas	35	1	1 year	1 & 6	SE	IF&G MFW&P, WG&F BIA, BLM,FS, NPS	Administrative costs			
M4	Develop guidelines for wolf management zones	36	1	2 years	1 & 6	SE	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	Administrative costs			
O4	Develop a wolf control plan	37	1	1 year	1 & 6	SE ADC		Administrative costs			
M3	Develop expertise in wolf control	373	2	continuous	1 & 6	ADC	IF&G, MFW&P, WG&F	5K	3K	3K	
M3	Obtain advance authority to release wolves and identify release sites	374	2	continuous	1 & 6	SE ADC	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	Administrative costs			

RECOVERY PLAN IMPLEMENTATION SCHEDULE WOLF

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY FWS REGION (6)	FWS PROGRAM (6a)	OTHER (7)	YEAR FOLLOWING PLAN APPROVAL 1st (8)	2nd	3rd	Comments (9)
M3	Control problem wolves	375	1	continuous	1 & 6	ADC	IF&G, MFW&P, WG&F	10K	10K	10K	
M4	Promote wolf recovery objectives in land use planning	381	1	continuous	1 & 6	SE	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	Administrative costs			
M4	Apply management guidelines to coordinate multiple use activities	382-1 to 382-9	1	continuous	1 & 6	SE ADC	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	Administrative costs			
O2	Provide law enforcement	39	2	continuous	1 & 6	LE SE	IF&G, MFW&P, WG&F	25K	25K	25K	
O1	Develop and implement procedures for reparation for damages	39	2	1 year	1 & 6	SE	IF&G MFW&P, WG&F	Administrative costs			
IR1	Monitor population recovery	411 412	1	continuous	1 & 6	SE	IF&G MFW&P, WG&F, BIA, BLM, FS, NPS	25K	25K	25K	

RECOVERY PLAN IMPLEMENTATION SCHEDULE WOLF

GENERAL CATEGORY	PLAN TASK	TASK #	PRIORITY #	TASK DURATION	RESPONSIBLE AGENCY			YEAR FOLLOWING PLAN APPROVAL			Comments
					FWS		OTHER	1st	2nd	3rd	
					REGION	PROGRAM					
(1)	(2)	(3)	(4)	(5)	(6)	(6a)	(7)	(8)			(9)
IR1	Monitor known populations	413-1 to 413-5	1	5 years	1 & 6	SE	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	25K	25K	25K	
MA	Review habitat stratification	42	2	continuous	1 & 6	SE	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	Administrative costs			
IR1, 2, 3	Study wolf populations, use of prey, habitat requirements, and effects on other carnivores	431, 431-1 to 431-7	1	5 years	1 & 6	SE	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	35K	35K	35K	
IR5	Study prey requirements and effect on prey	432-1, 432-2	2	5 years	1 & 6	SE	IF&G MFW&P, WG&F, BIA, BLM, FS, NPS	15K	15K	15K	

RECOVERY PLAN IMPLEMENTATION SCHEDULE WOLF

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY			YEAR FOLLOWING PLAN APPROVAL			Comments (9)
					FWS		OTHER (7)	1st (8)	2nd	3rd	
					REGION (6)	PROGRAM (6a)					
IR2	Study requirements of prey species	433-1 to 433-4	2	5 years	1 & 6	SE	IF&G MFW&P WG&F BIA, BLM, FS, NPS	10K	10K	10K	
IR2	Compare with knowledge from other areas	434-1 to 434-3	3	continuous	1 & 6	SE	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	5K	5K	5K	
O3	Develop special regulations for threatened populations	44	2	1 year	1 & 6	SE		Administrative costs			
O3	Develop State regulations for delisted wolves	45	3	1 year			IF&G, MFW&P, WG&F,	Administrative costs			
O1	Develop and present information and education programs	5. (all tasks).	1	continuous	1 & 6	PA SE	IF&G, MFW&P, WG&F, BIA, BLM, FS, NPS	60K	40K	30K	

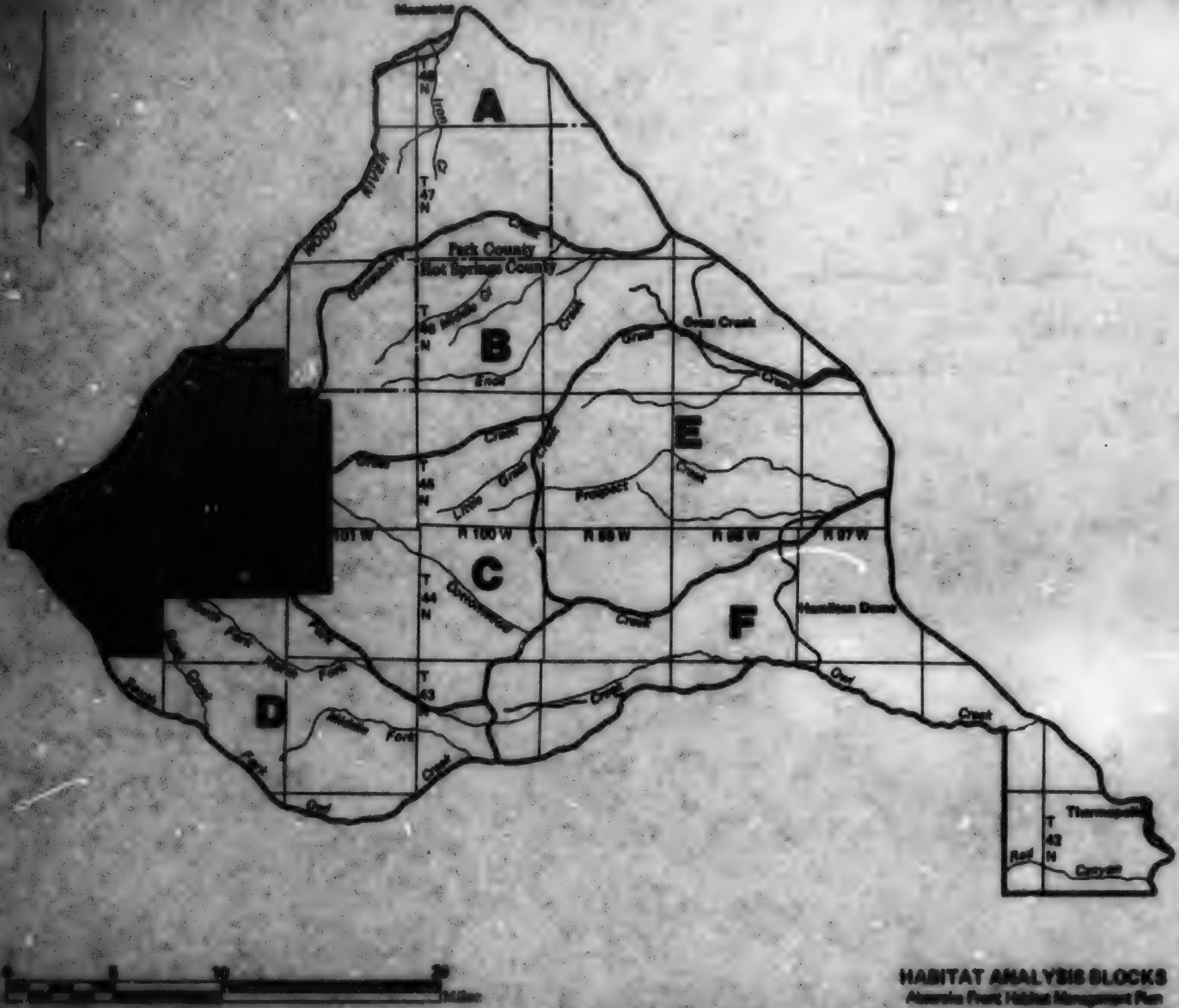
APPENDIX C

HABITAT ANALYSIS BLOCK (HAB) MAPS

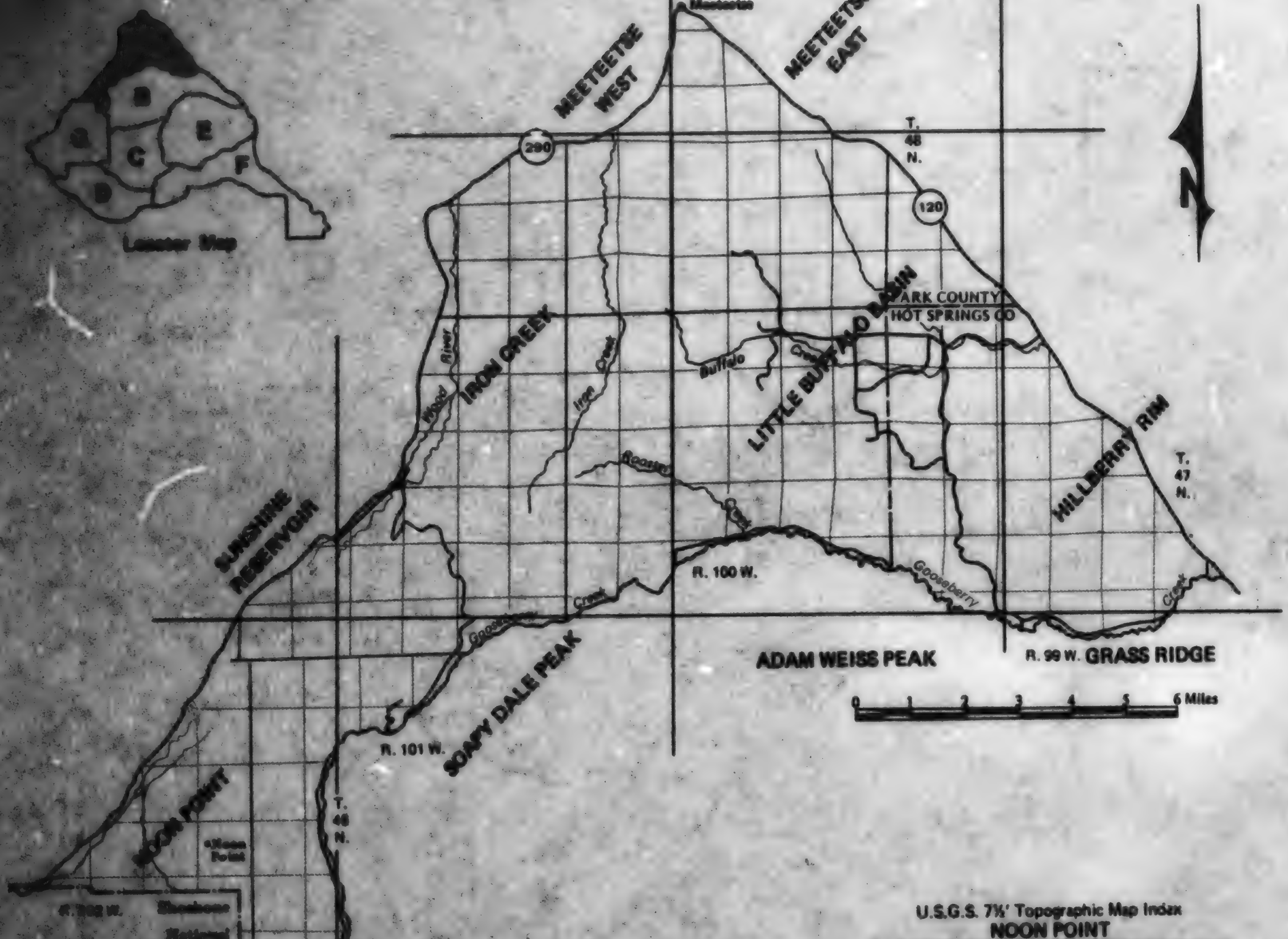
AND

RESPECTIVE INDEX MAPS TO U.S. GEOLOGICAL SURVEY

7.5 MINUTE QUADRANGLE MAPS



HABITAT ANALYSIS BLOCKS
Absaroka Front Habitat Management Plan



U.S.G.S. 7½' Topographic Map Index
NOON POINT
HABITAT ANALYSIS BLOCK (HAB) "A"
Absaroka Front Habitat Management Plan

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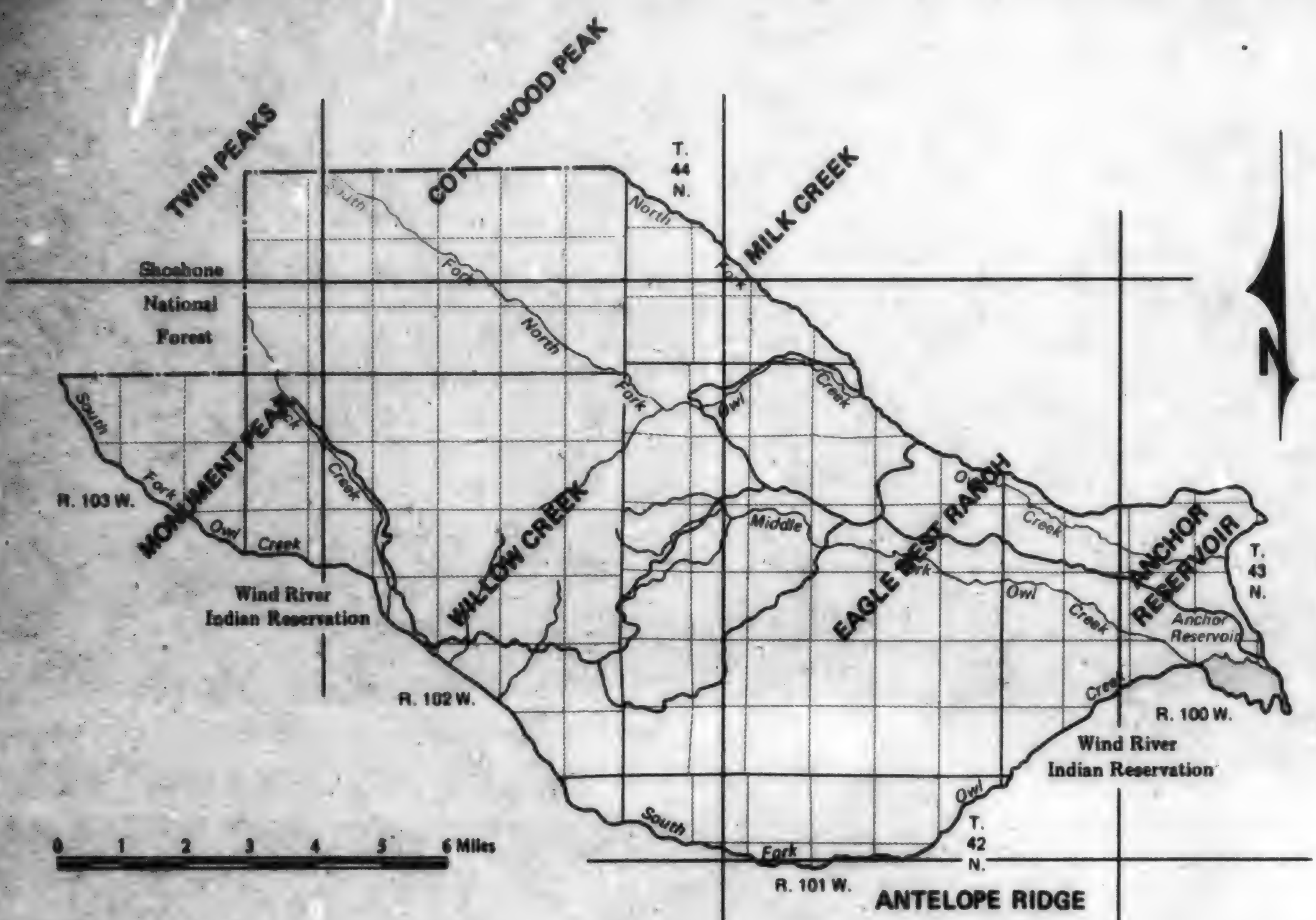
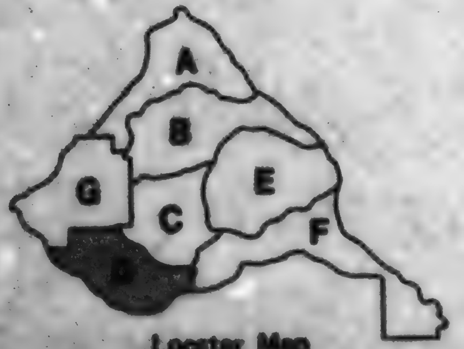




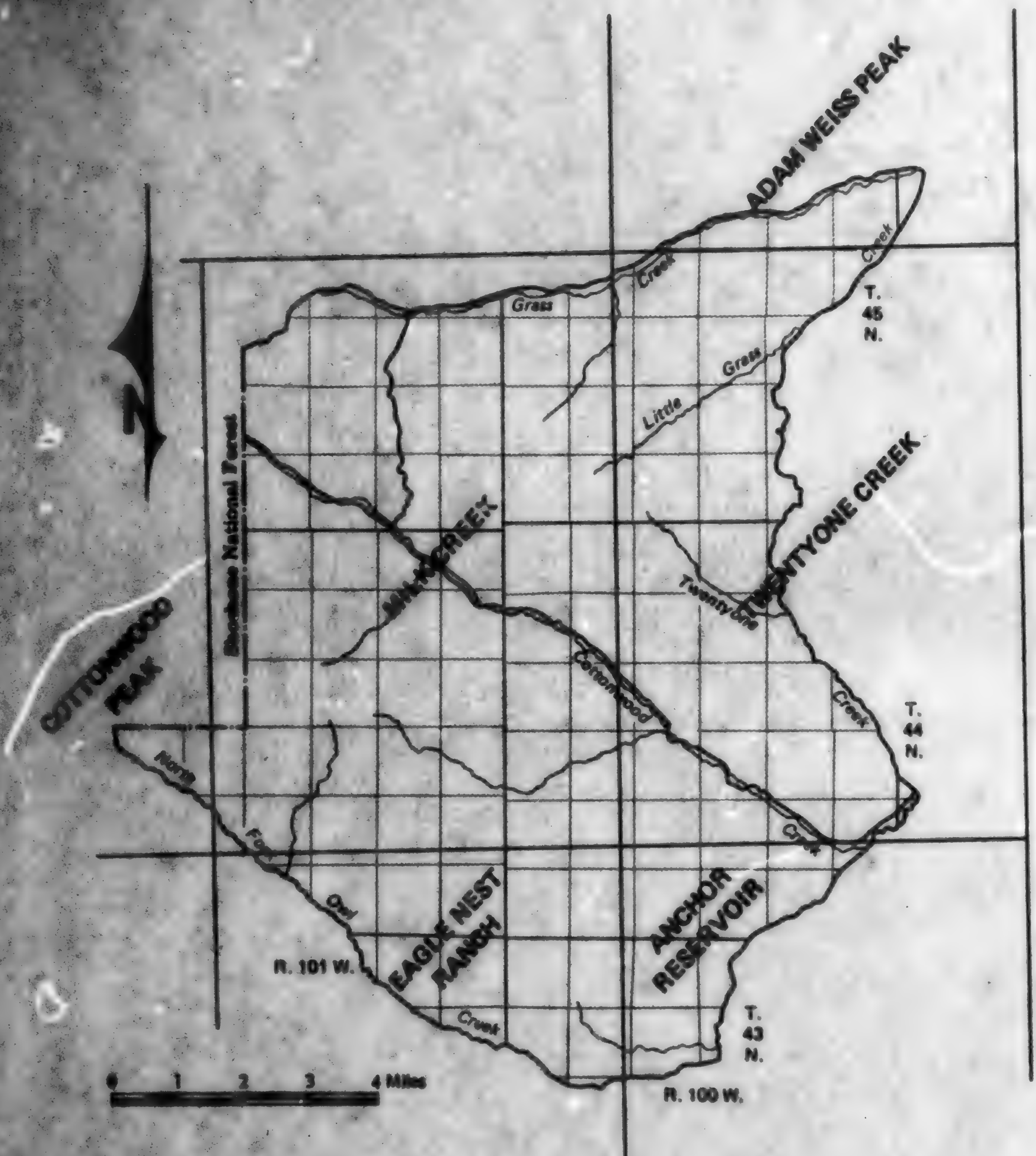
Locater Map

U.S.G.S. 7½' Topographic Map Index

UPPER OWL CREEK

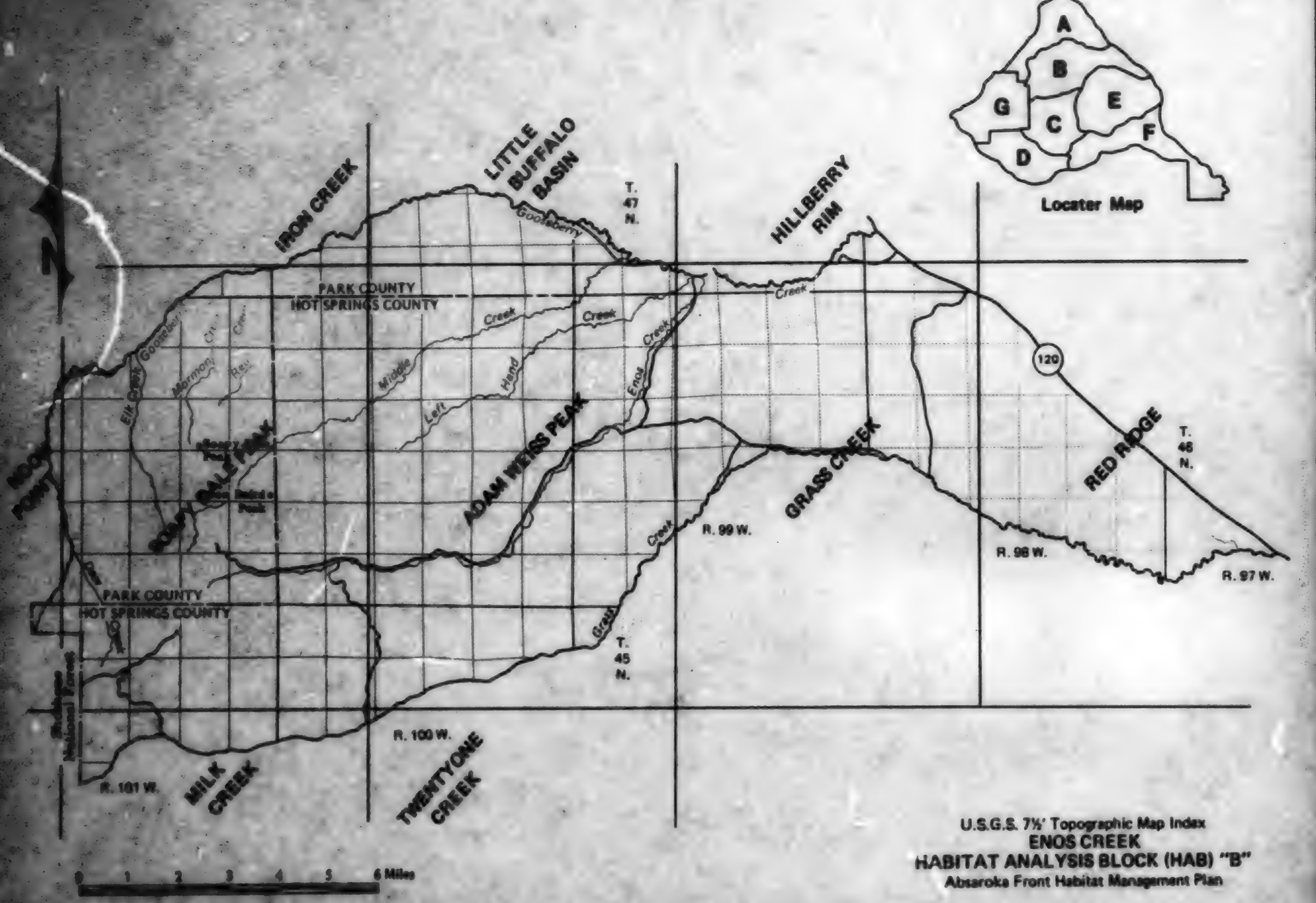
HABITAT ANALYSIS BLOCK (HAB) "D"

Absaroka Front Habitat Management Plan

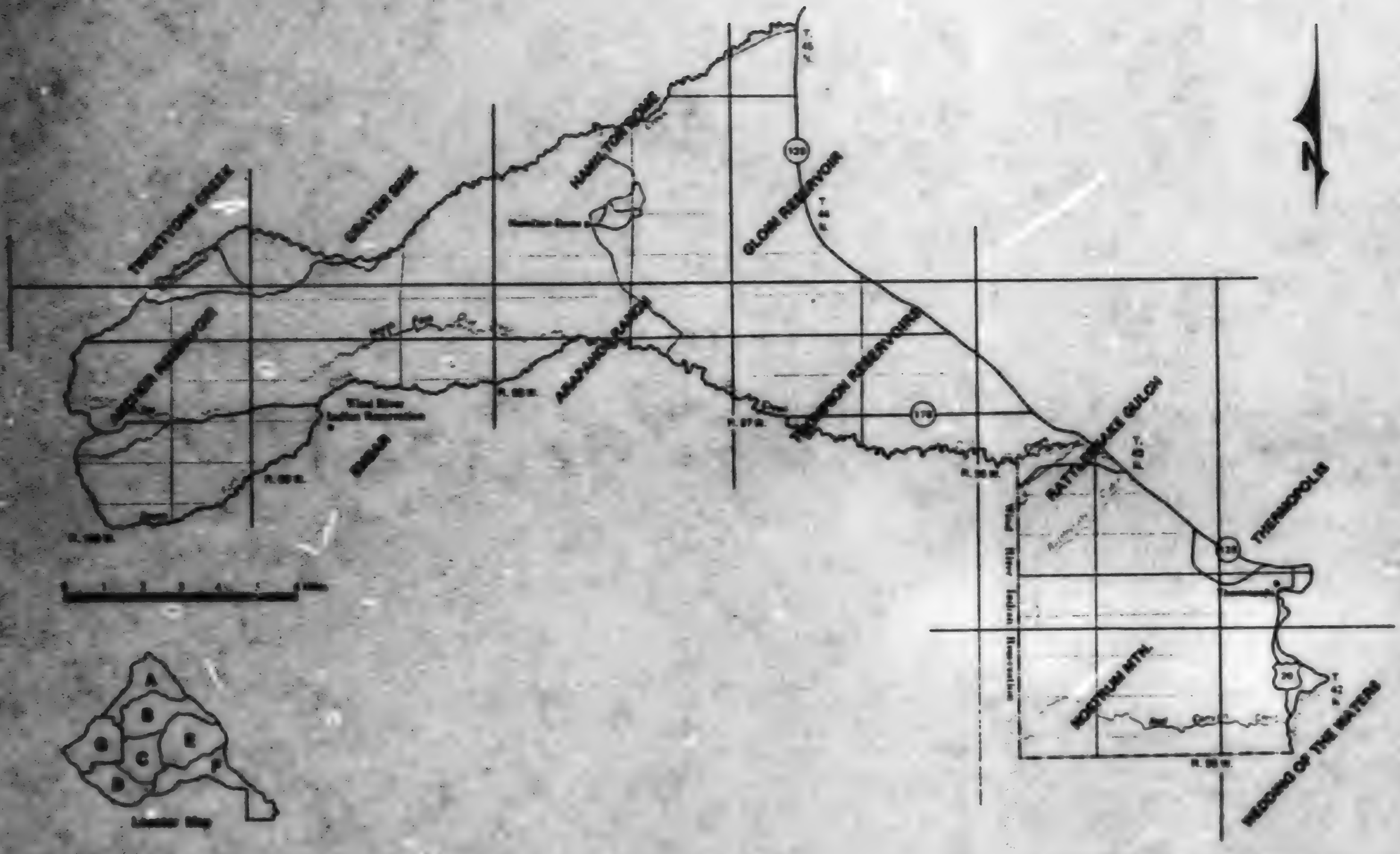


Locater Map

U.S.G.S. 7½' Topographic Map Index
UPPER COTTONWOOD CREEK
HABITAT ANALYSIS BLOCK (HAB) "C"
Absaroka Front Habitat Management Plan

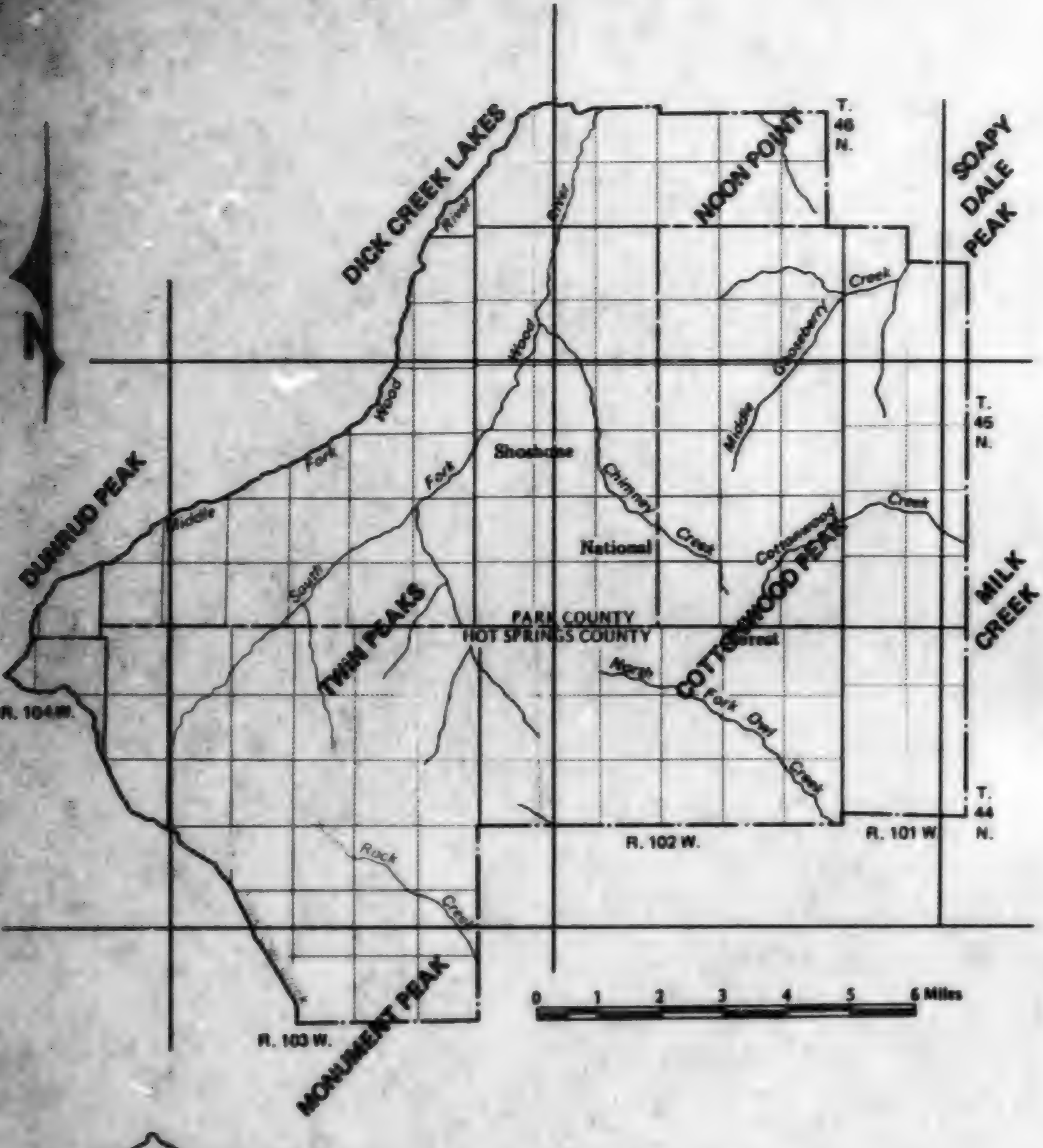


U.S.G.S. 7½' Topographic Map Index
ENOS CREEK
HABITAT ANALYSIS BLOCK (HAB) "B"
Absaroka Front Habitat Management Plan



U.S.G.S. 7½' Topographic Map Index
LOWER OWL CREEK
HABITAT ANALYSIS BLOCK (HAB) "F"
Abstracts From Habitat Management Plan

247



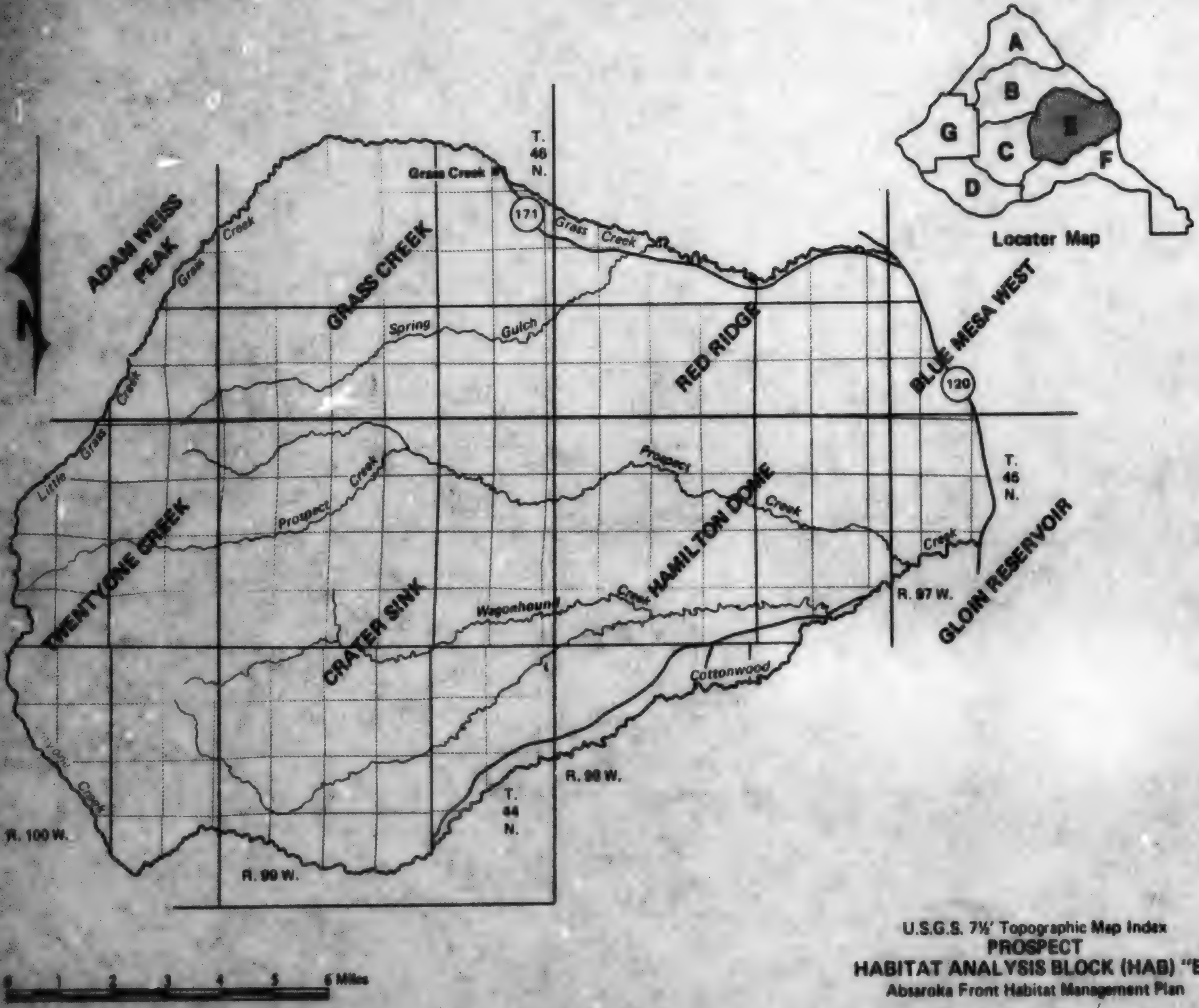
Locater Map

U.S.G.S. 7½' Topographic Map Index

WOOD RIVER

HABITAT ANALYSIS BLOCK (HAB) "G"

Absaroka Front Habitat Management Plan



U.S.G.S. 7½' Topographic Map Index

PROSPECT

HABITAT ANALYSIS BLOCK (HAB) "E"

Absaroka Front Habitat Management Plan

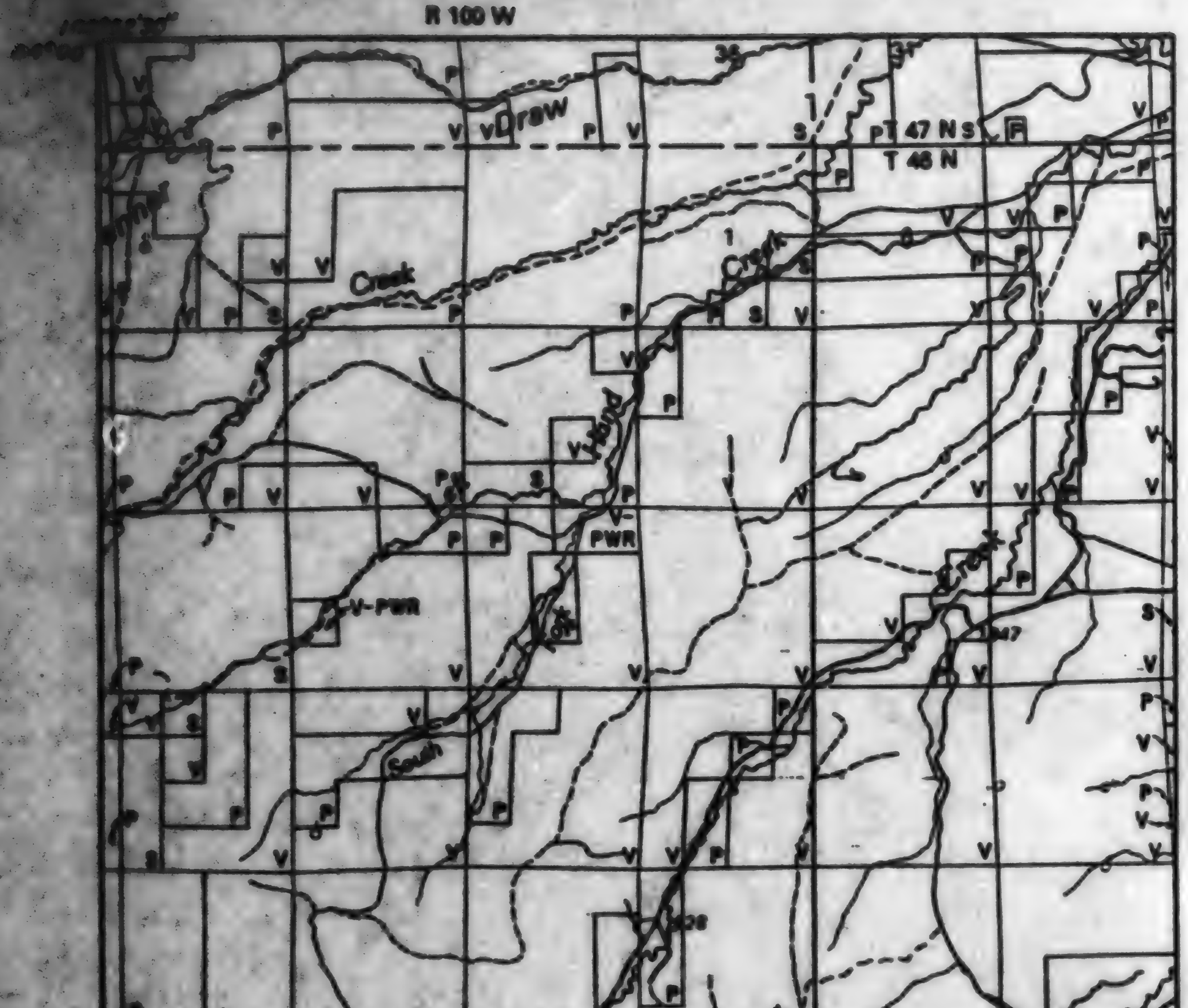
Spring
36
31
Fork
F8
Dick Creek Lakes
·2206
Dick
6
2880·
1
R. 102 W.
R. 102 W.
2867
Sou

APPENDIX H

SITE SPECIFIC PROPOSED ACTIONS

BY U.S. GEOLOGICAL SURVEY

7.5 MINUTE QUADRANGLE MAPS



Adam Weiss Peak

Adam Weiss Peak

Water Developments

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
1.	1 gal/min	0637	NWNE	8	45	99
2.	-	0604	SWSW	4	45	100
3.	1 gal/min	0604	C SE	7	46	99
4.	-	0604	NWSW	20	46	99
5.	-	0604	NWNE	29	46	99
6.	1 gal/min	0599	NWSW	4	46	100
7.				14	46	100
8.				14	46	100
9.				15	46	100
10.				22	46	100

11. Potential guzzlers, catchments will be identified in coordination with livestock water distribution planning via AMPs.

Vegetation Manipulation

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv. Sec.	Tp.	Rg.
1. Prescribed fire	420 acres	0604	secs. 14,15,22,23	46	100

Dependent upon AMP/private land treatment plan.

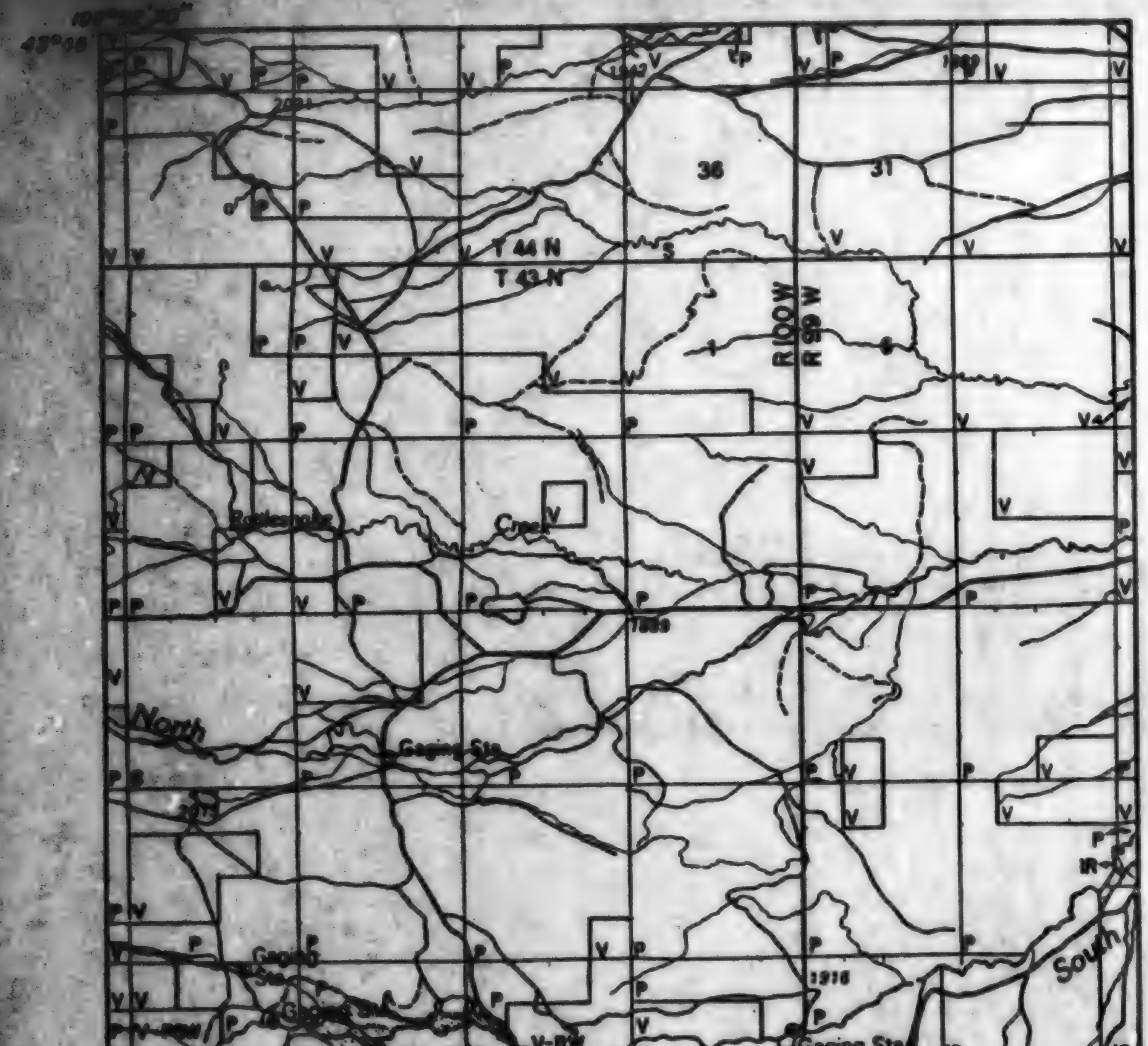
Stream Zone Rehabilitation

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv. Sec.	Tp.	Rg.
1. Bonner Draw	.5 miles	0599	35	47	100
2. Enos Creek	1.25 miles	0604	secs. 24,5,34,35	46	100
			secs. 5,8,17,19	46	99
3. Left Hand Creek	1.45 miles	0604	secs. 5,6	46	99
			secs. 15,20,21	46	100

Land Tenure Adjustment

Willing cooperator adjustments only.

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv. Sec.	Tp.	Rg.
1. Bonner Draw/Middle Creek	portions	0599	secs. 3,33,34,35	47	100
	portions		secs. 2, 3, 4	46	100



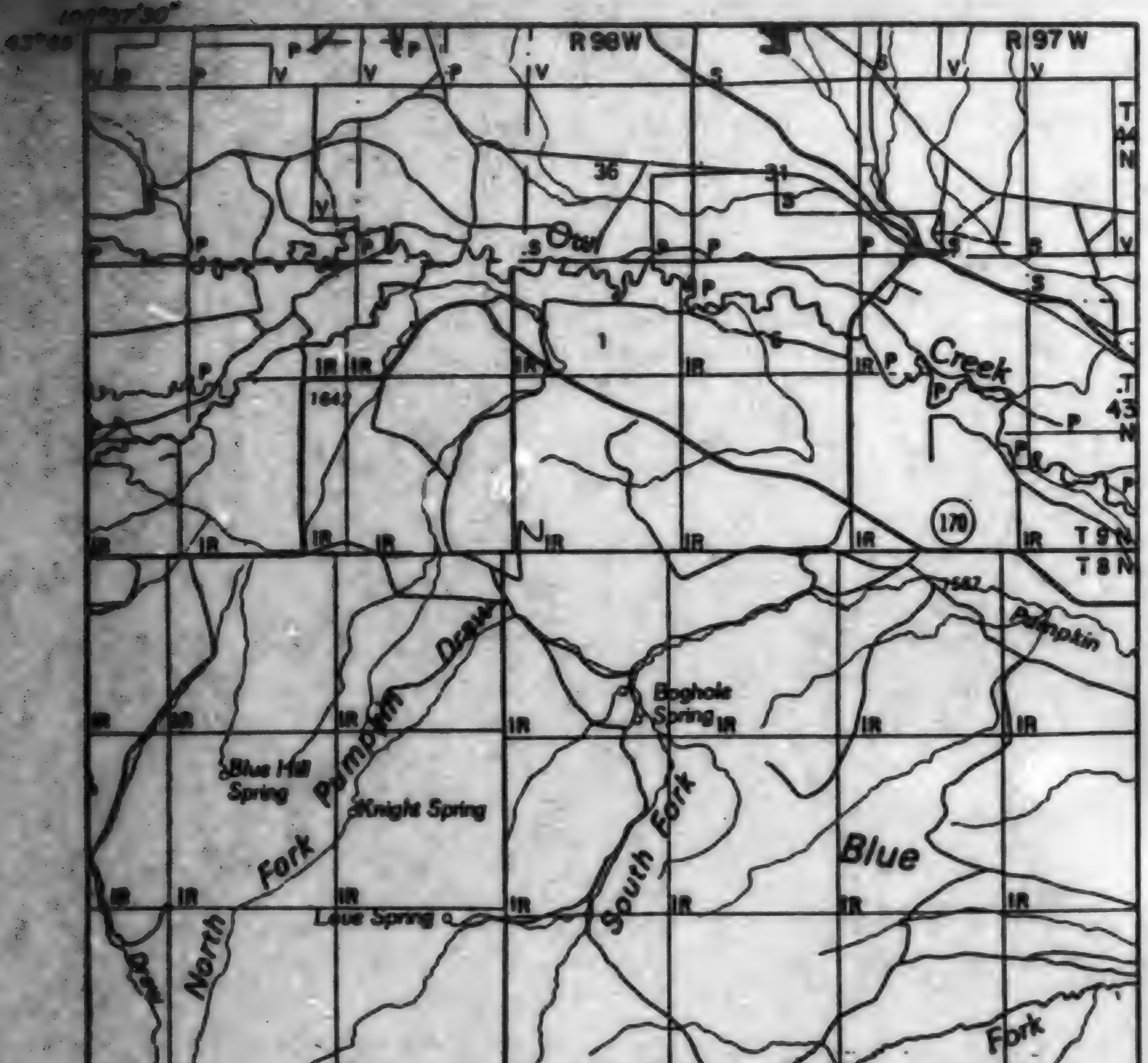
Anchor Reservoir

Anchor Reservoir

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. No name	1 gal/min	0654	SENW	2	43	100
2. Ayer Spring	1 gal/min	0654	SWNE	2	43	100
3. Anchor Spring	1 gal/min	0614	SWNE	3	43	100
4. PRG	2 gal/min	0540	NWSE	4	43	100
5. Campbell Spring	2 gal/min	0540	SESE	4	43	100
6. Unknown	-	0540	NWSW	3	43	100
7. Unknown	marginal	0551	NWSE	31	44	99
8. Ed's Spring	2 gal/min	0681	NWSE	33	44	100
9. Unknown	-	0681	SWNW	33	44	100
10. Unknown	-	0607	NWSE	35	44	100
11. Guzzlers - Pending site analysis						
12. Wells/artesian - J. Brown		0533		3	43	99
Vegetation Manipulation						
1. Prescribed Burn	20 acres	0681		33	44	100
2. brush beating	80 acres	0607				
	40 acres	0540				
Stream Zone Rehabilitation						
1. S.F. Owl Creek	2.25 miles	0569	secs. 25,26,27,28,29		43	100
2. Spring Creek	1.25 miles	0607/0681	sec. 2		44	100
3. Cottonwood Creek	1.2 miles	0613	secs. 26,27,28,33,34		44	100

Other

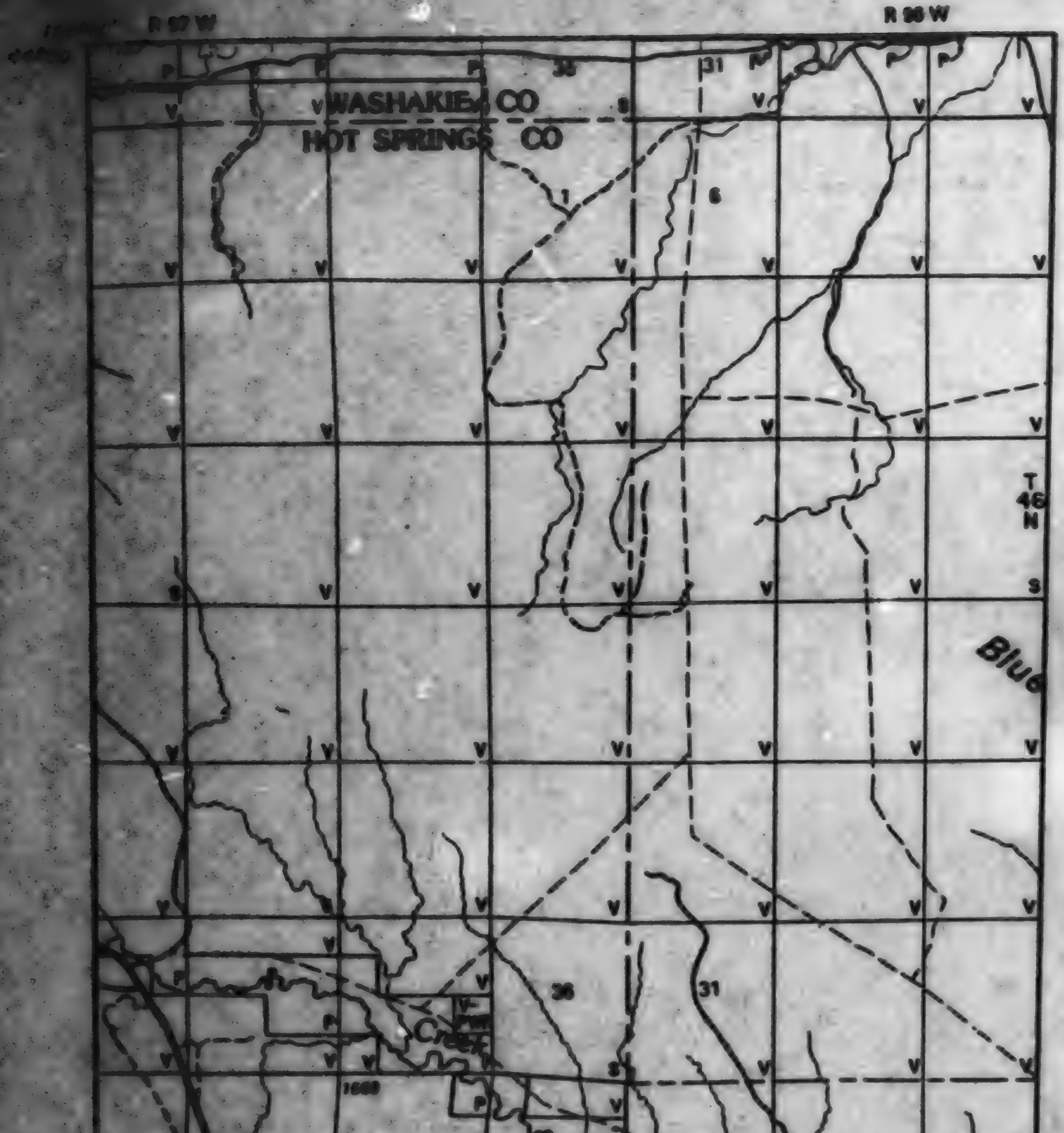
Opportunity for stream zone planting, guzzlers and fence modification maybe further identified at a later RMP revision.



Arapahoe Ranch

Arapahoe Ranch

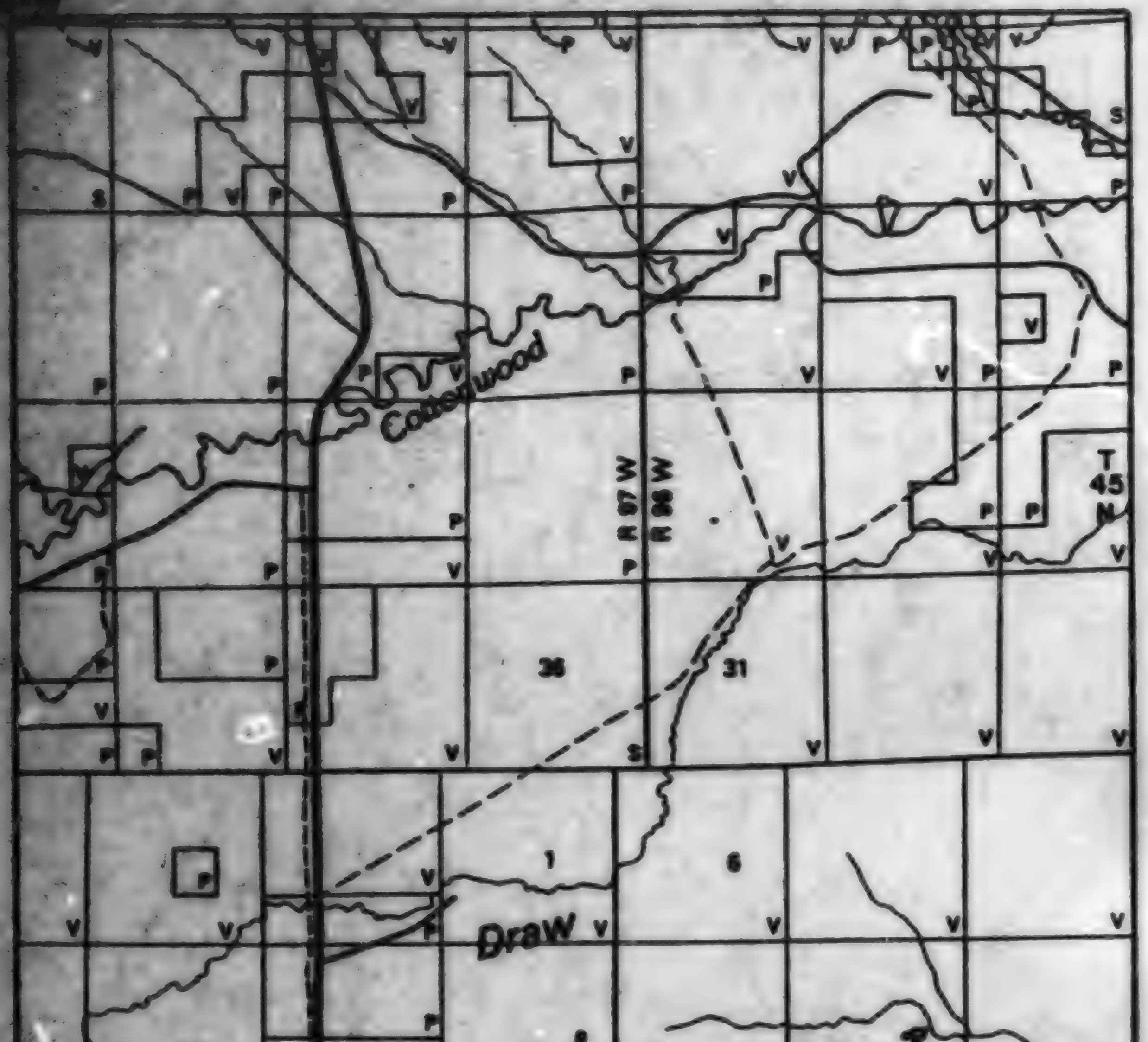
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location		
			Subdiv. Sec.	Tp.	Rg.
Water Developments					
1. Guzzlers	-	0537	secs. 28,29,33	44	97
2. Guzzlers	-	0593	secs. 25, 27	44	98



Blue Mesa N.W.
(Blue Mesa West)

Blue Mesa NW (Blue Mesa West)

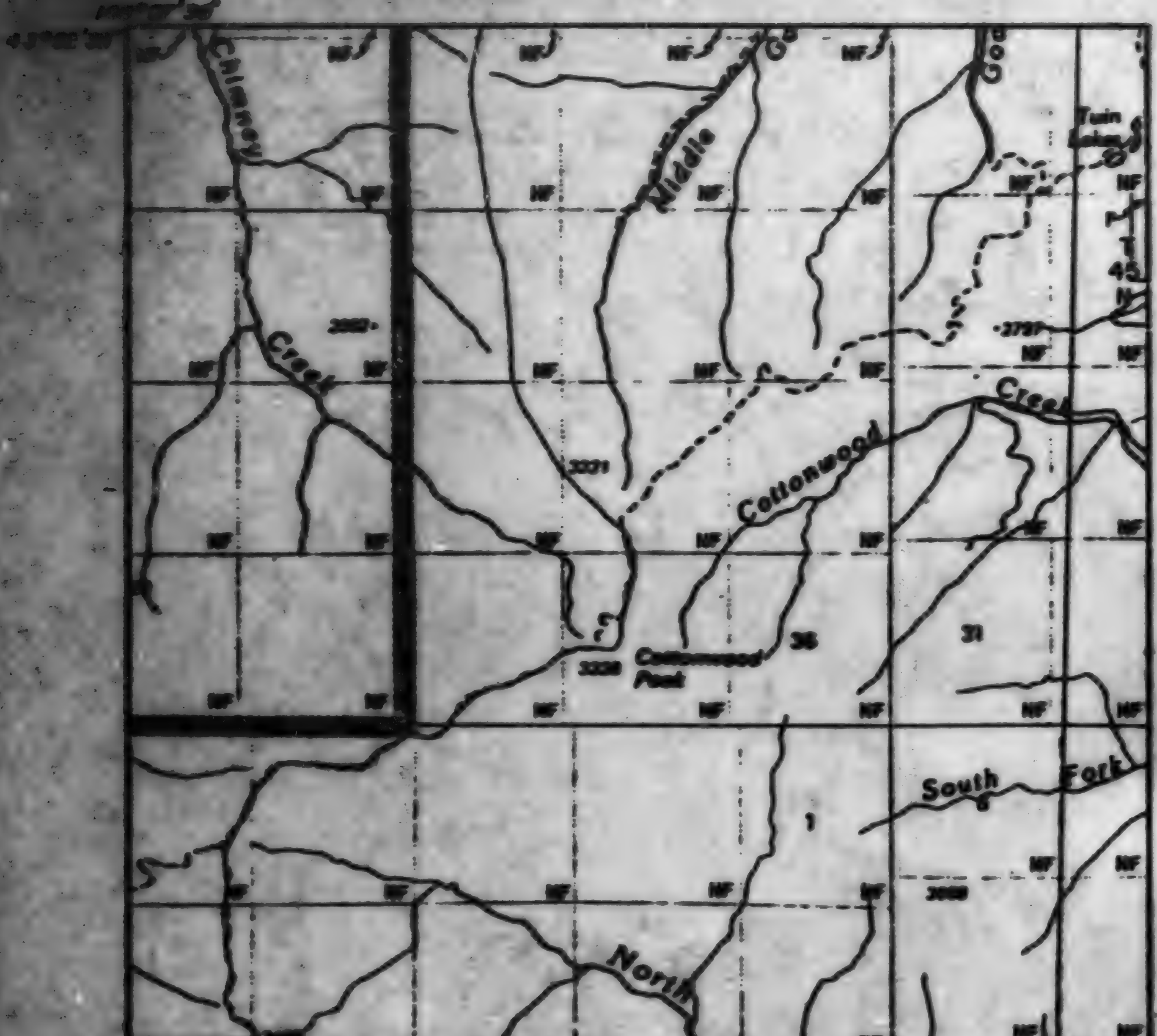
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Well (existing)	-	0534/0535		3	45	97
Stream Zone Rehabilitation						
1. Grass Creek	.2 miles	0604	SWNE	33	46	97



Blue Mesa S.W.
(Gloin Reservoir)

Blue Mesa S.W. (Gloin Reservoir)

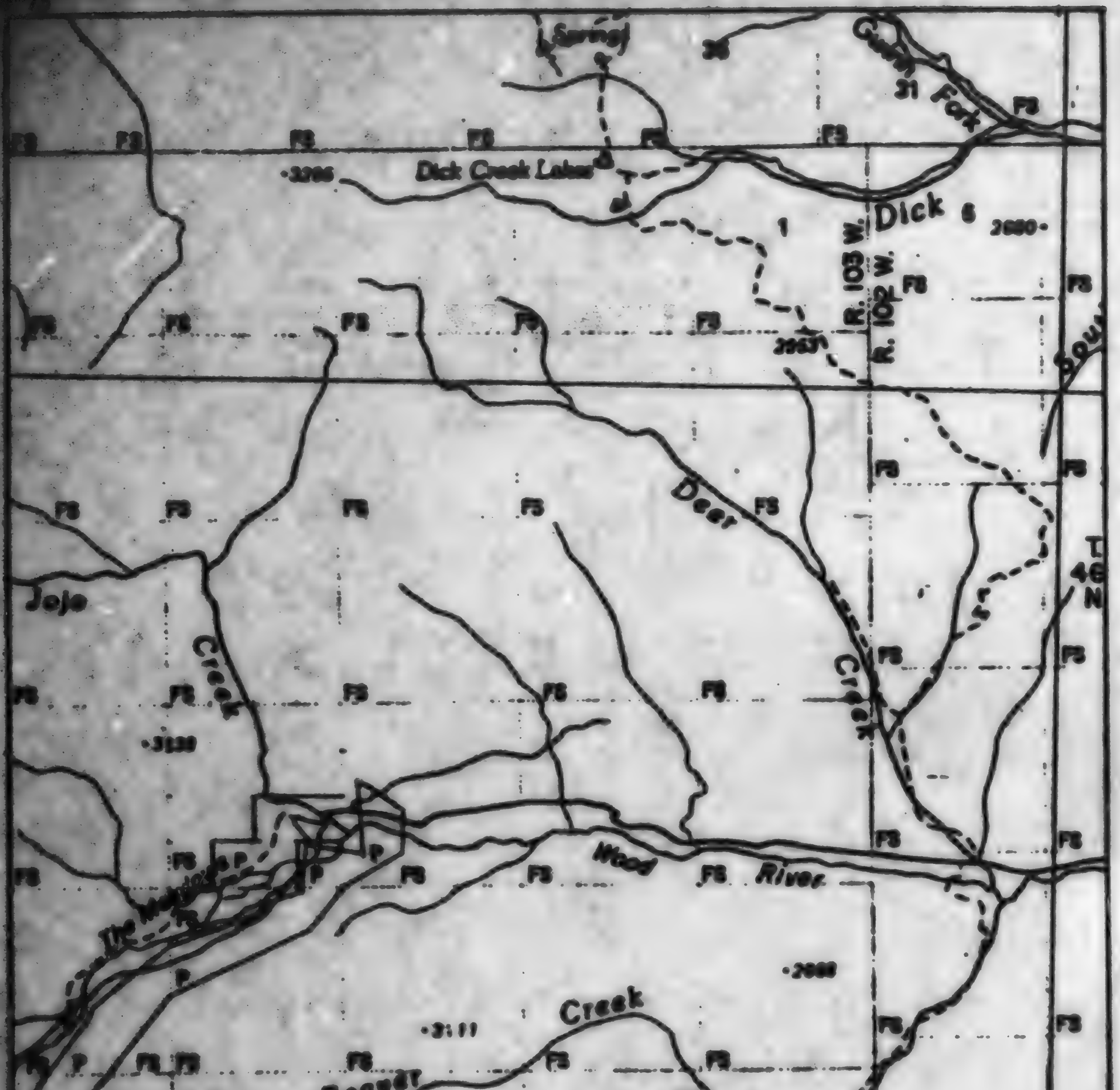
Proposed Actions	Kind/Amount	Grazing	Location			
	Adjudicated Amt.	Allot No.	Subdiv.	Sec.	Tp.	Rg.
Water Development						
1. Well (existing)	-	0504	NESE	23	44	97
2. Guzzlers	-	0504/0535	secs 2,3,26,27,28,35		44	97
3. Watershed wet meadow system potential					44	97
Stream Zone Rehabilitation						
1. Cottonwood Creek	.15 miles	0504	SENW	28	45	97



Cottonwood Peak

Cottonwood Peak

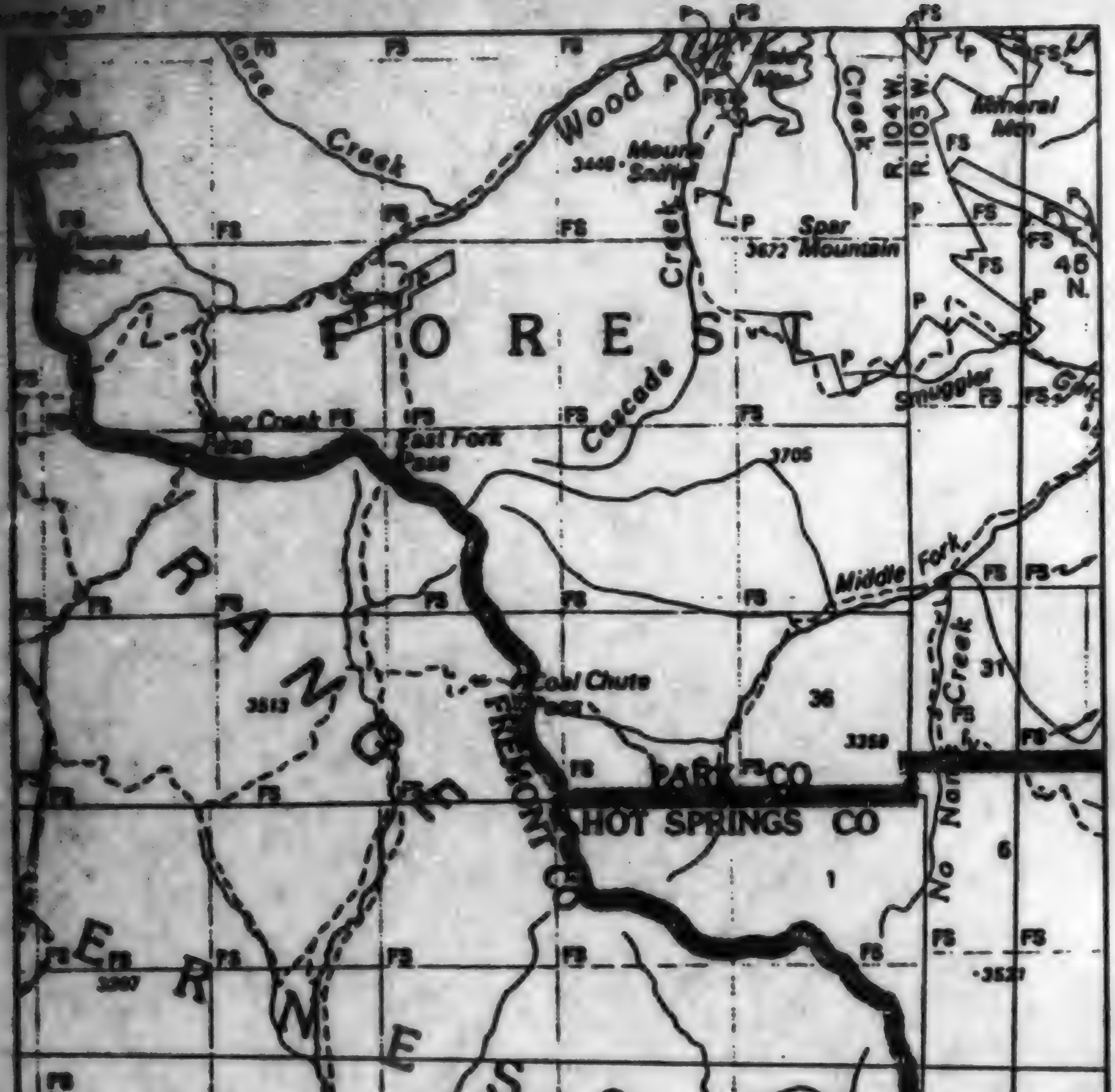
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Vegetation Manipulation						
1. Prescribed burn	70 ac sagebrush	0541	secs.	22,23,24,28	44	102
	180 acres	0661	secs.	19,20,29,30	44	101
2. Aspen Inventory/Treatment	100 acres	0661	secs.	19,20,29,30	44	101
		0541	secs.	22,23,24,25	44	102
Stream Zone Restoration						
1. Tributary Stream	.3 miles	0541		24	44	102
2. No. Fk Owl Creek	.85 miles	0661		19	44	101
3. Develop Fishery Habitat as in 1, 2 above						
Land Tenure Adjustments						
Negotiated adjustments/acquisition	200 ac	0661	secs.	19,20,29,30	44	101
	1240 acres	0541,0560	secs.	21,22,23,24,27,28	44	102
Restoration of Habitat						
1. Bighorn sheep		0541	all		44	101
		0661	all		44	102
2. Mitigation "in kind" for habitat loss		same as above				
Road Restrictions						
1. Closure and/or do not allow new roads	same as restoration of habitat above					
Coordinated Management						
1. Livestock on FS and BLM cooperative allotment management and administration		Gooseberry drainage on FS, North Fork Owl Creek drainage on FS Cottonwood Creek Drainage on FS				



Dick Creek Lakes

Dick Creek Lakes

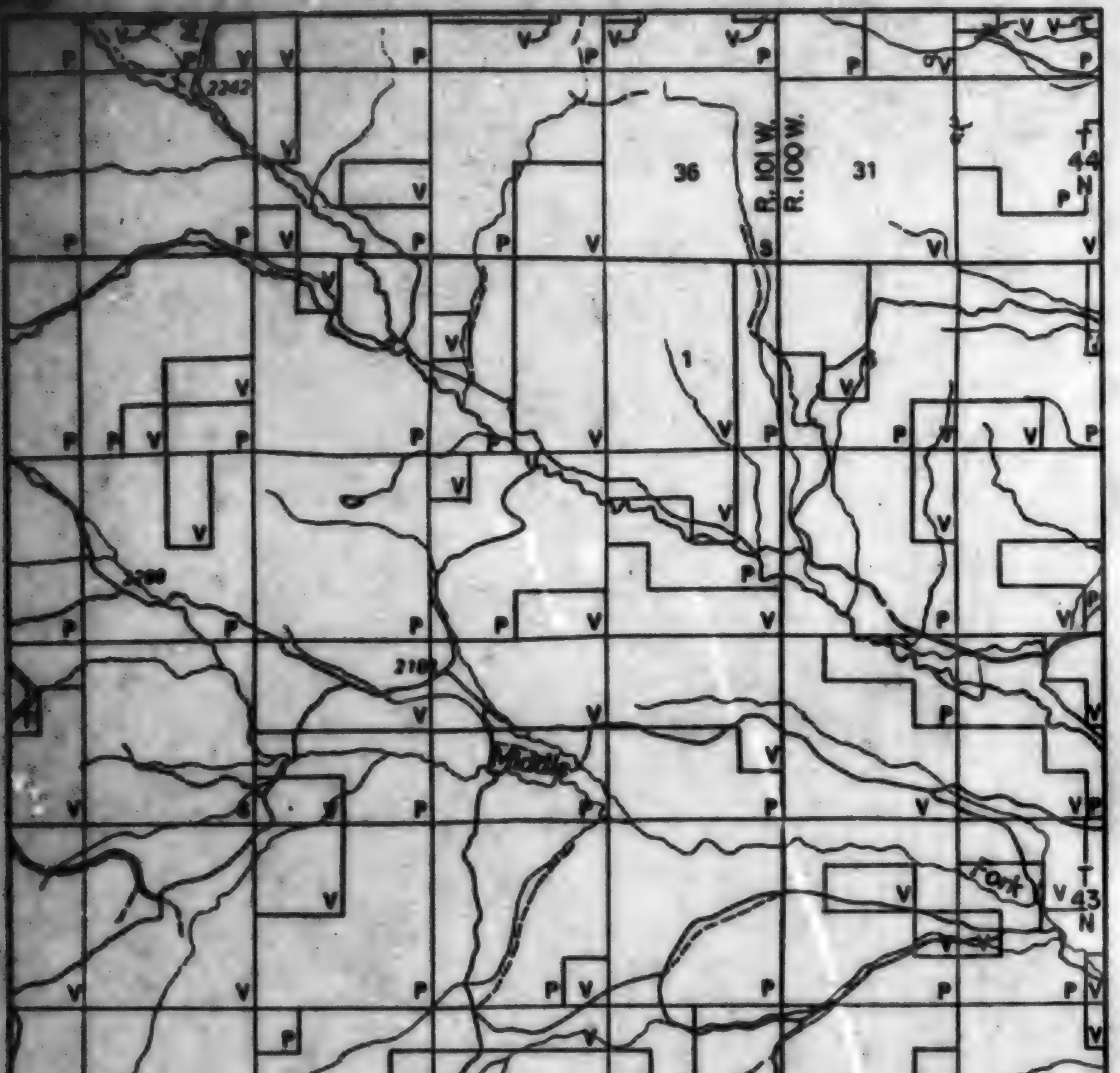
Proposed actions will be identified a Shoshone Forest Planning allocations are finalized at a later date.


F O R E S T
R A N G E
R N E S S
Wood
Creek
Mount Sniffel
3448
Spar Mountain
3672
Creek
Cascade
Creek
Mineral Mtn
R. 104 W.
R. 103 W.
45 N.
Smuggler
East Fork Pass
3705
Middle Fork
Coal Chute
3513
36
31
Creek
3350
PARK CO
HOT SPRINGS CO
FREMONT CO
1
6
3521
3140
3294
River
T 44 N.
IR
T 9 N
R 4 W
FS
P
0
1 mile

Dunrud Peak

Dunrud Peak

Proposed actions will be identified a Shoshone Forest planning allocations become finalized at a later date.



Eagle Nest Ranch

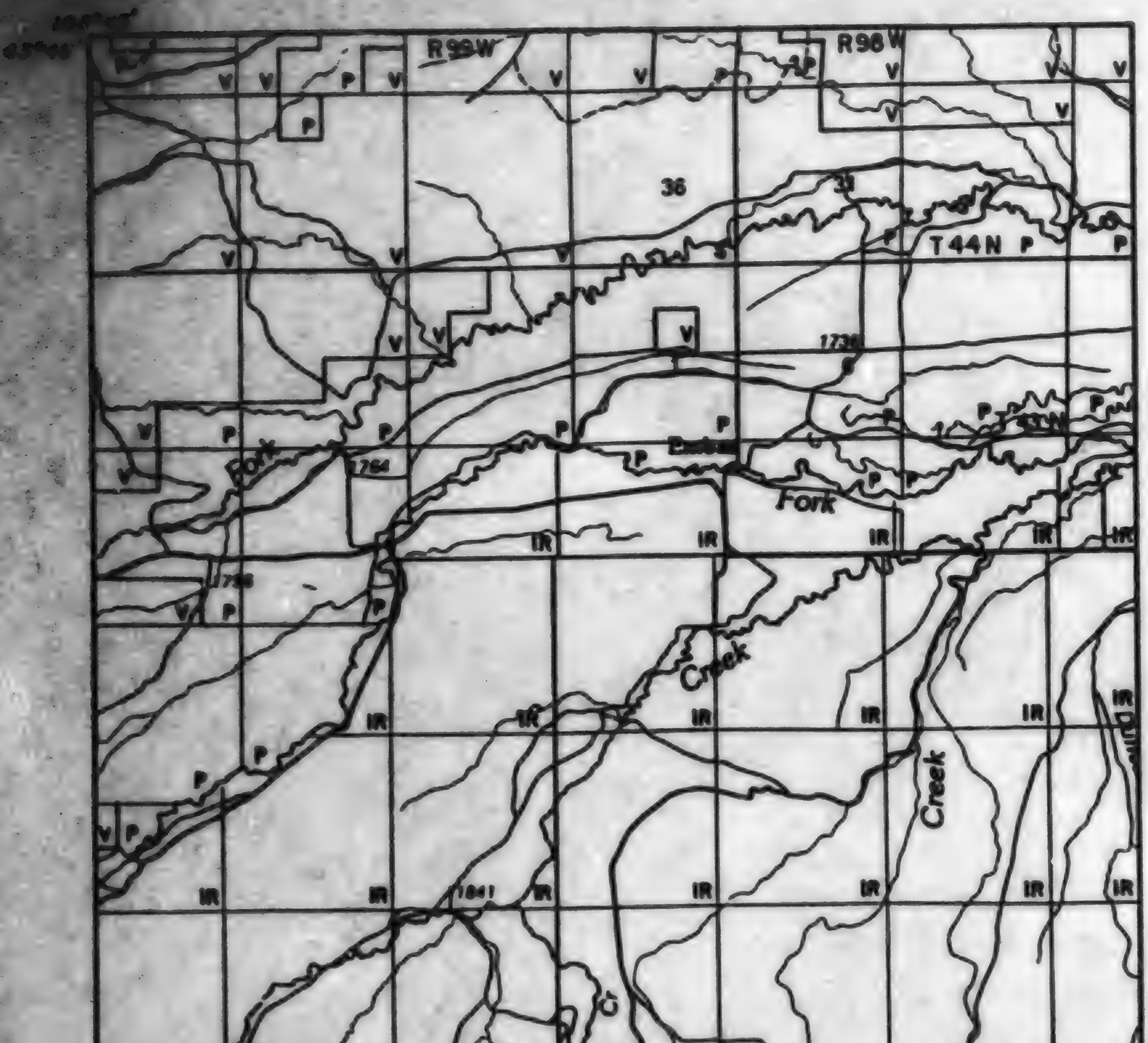
Eagle Nest Ranch

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location			
			Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. No name	1 gal/min	0614	SWSW	5	43	100
2. No name	1 gal/min	0614	SESE	6	43	100
3. No name	1 gal/min	0514	NESW	6	43	100
4. No name	1 gal/min	0661	Lot 8	1	43	101
5. No name (4 sprgs)	1 gal/min ea	0661	E½	2	43	101
6. No name	-0-	0568	SWNW	13	43	101
7. No name	-	0681	SESE	30	44	100
8. No name	-	0681	SWSE	30	44	100
9. No name (2 sprgs)	1 gal/min	0681	E½NE	31	44	100
10. Seeps no name	-	0681	E½E½	32	44	100
11. No name	1 gal/min	0661	NWNW	34	44	100
12 2 sprgs no names	-	0568	NWNW,SWNW	1	42	101
Stream Zone Rehabilitation						
1. North Fork Owl Creek	.3 miles	0661	SWNE	12	43	101
			SWSE	2	43	101
			SWNW	34	44	101
2. South Fk of No Fk Owl Cr	.25 miles	0661	NENW	3	43	101
3. South Fork Owl Creek	7.5 miles	568-9	secs.	1,2,5,8,9,10	42	101
			secs.	29,31,32	43	100
4. Middle Fork Owl Creek	.2 miles	0569	SESE	20	43	100
Vegetative Manipulation						
1. Prescribed Fire sagebrush/pine	100 acre	0681	secs.	30,31,32	44	100
				25	44	101
				6	43	100
				1	43	101
2.	30 acres	0584		4,9	43	101
3.	70 acres	0661		1,2,3	43	101
				28,34	44	101
4.	160 acres	568-9		1,2,3,4,5,9	42	101
				6	43	100
				30	43	100
				17,19,21,28	43	101
Aspen Inventory and Rehabilitation						
1.	10 acres	0661		2	43	101
2.	10 acres	0681		30	44	100

Eagle Nest Ranch (Continued)

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Land Tenure Adjustment						
1. Allotment 680-681	560 acres	To be negotiated - to block up crucial winter habitats				
2. Allotment 661	900 acres	To be negotiated - to block up crucial winter habitats				
3. Allotment 584	200 acres	To be negotiated - to block up crucial winter habitats				

	Kind/Amount	Grazing Allot. No.	Location Sec.	TP.	Rg.
Barrier/Hazard Fence Modification/Removal					
1. Hazard/abandon	.25 miles	0568	sec. 34, T. 43 N., R. 101 W.		
Restore Priority Species Habitats					
1. NF Owl Creek Canyon	Bighorn Sheep	0568-69,	secs. 1,2,3,4,5,8,9,10,11, T. 42 N., R. 101 W. secs. 29,31,32,T.43N.,R.100W		
2. Bighorn Sheep		0661-681	secs. 1,2, T.43N.,R.101W. secs. 27,35, T.44N.,R.101W. sec. 31, T.44N.,R.100W.		


R99W
R98W
36
31
T44N
T43N
Fork
Fork
Creek
Creek
Red
Spring
Cr
Rock
Cottonwood
Riley Flat
1736
1764
1796
1841
2043
V
P
IR
36
31
1
0
1 mile

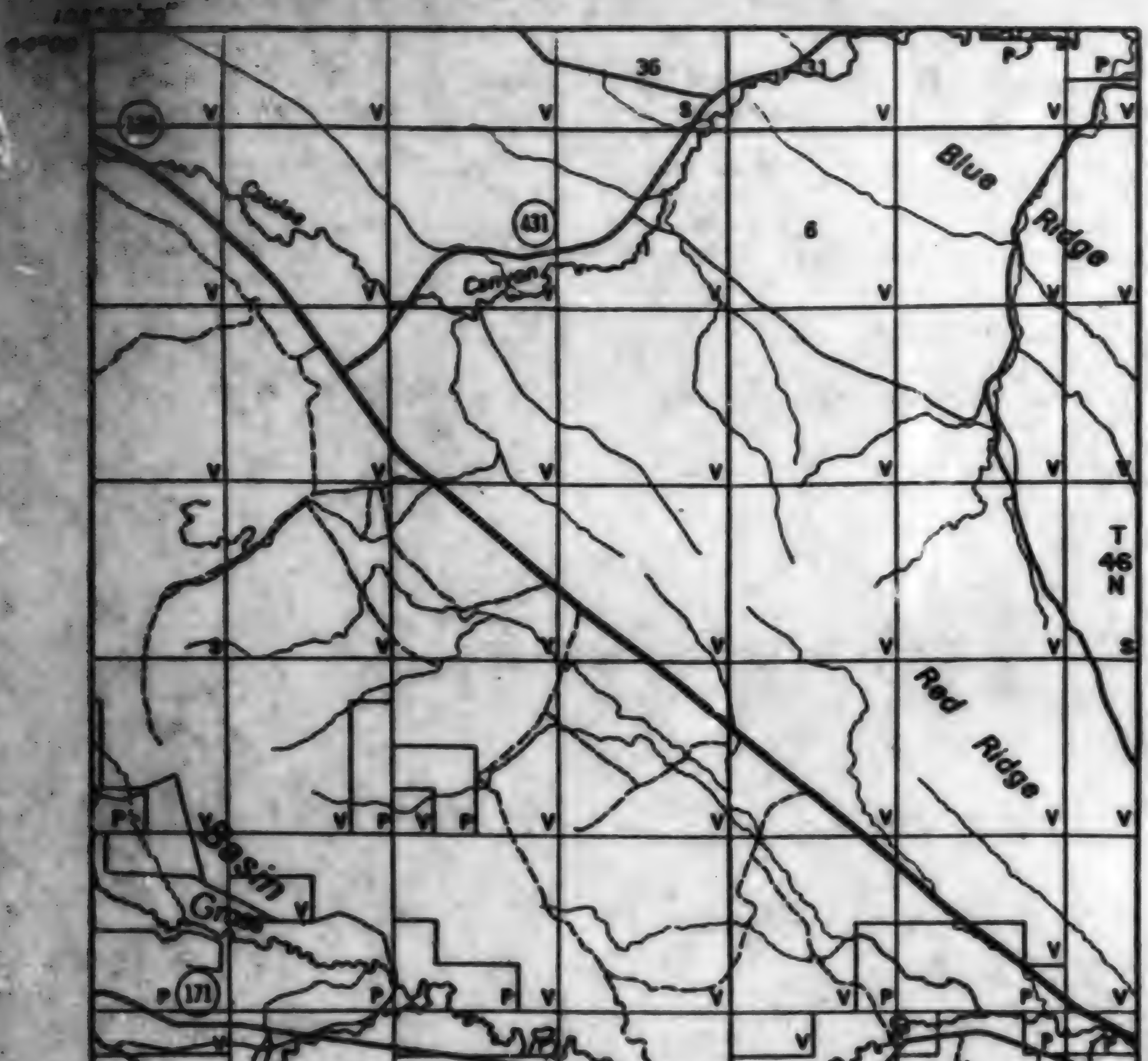
Embar

Ember

Proposed Actions	Kind/Amount	Grazing	Location			
	Adjudicated Amt.	Allot No.	Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Noname spring	1 gal/min	0551	NESE	33	44	99
2. Guzzler	catchment	0582	NWSE	35	44	99
3. Guzzler	catchment	0551	NWSE	34	44	99
4. Wet meadow/dike system	inventory sites	0551,0569,		33,34,35	44	99
		0553		4	43	99

Fence Modification

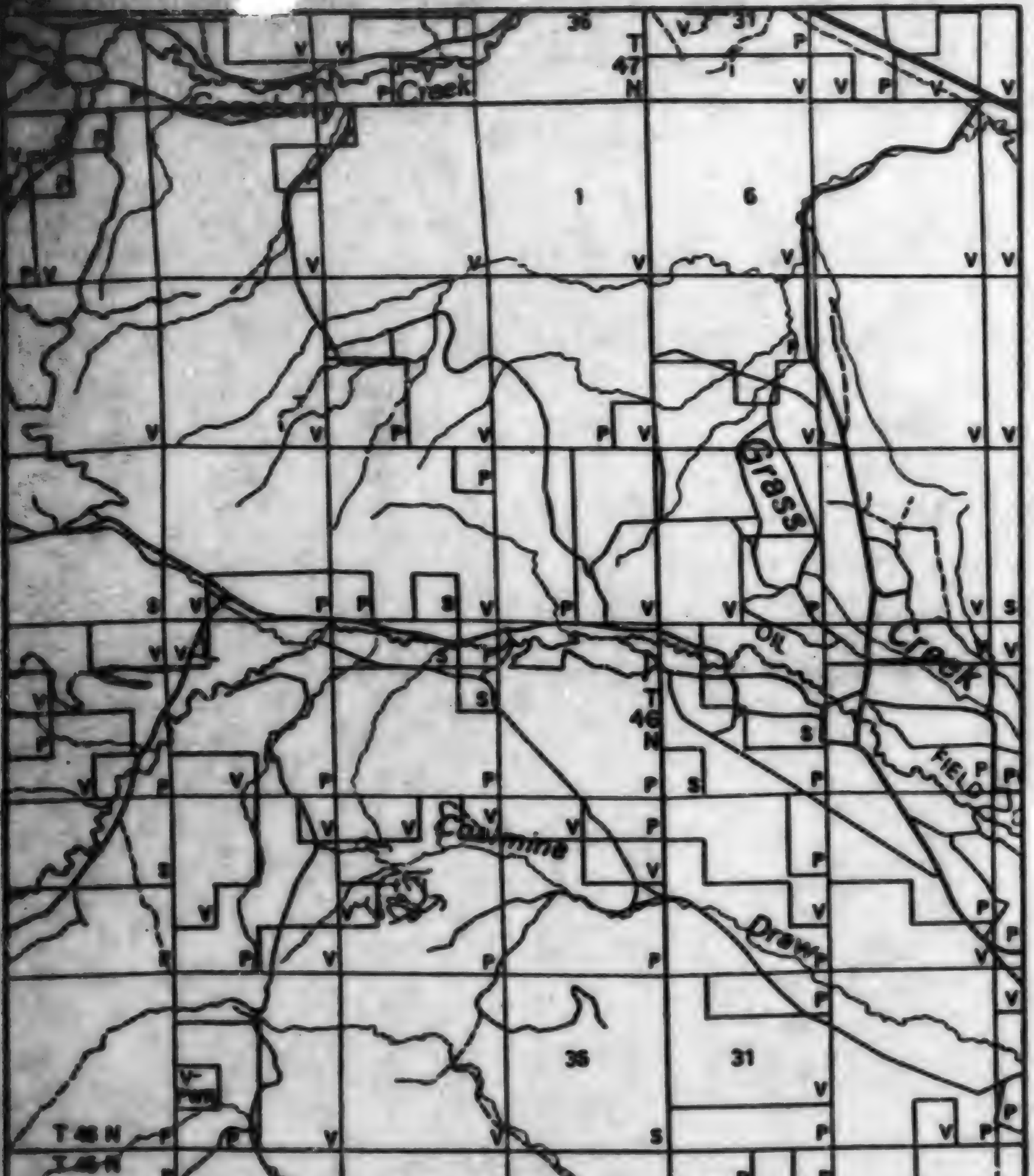
1. Inventory all fences on public lands - prioritize for modification if required.



Grass Creek Basin N.E.
(Red Ridge)

Grass Creek Basin N.E. - Red Ridge

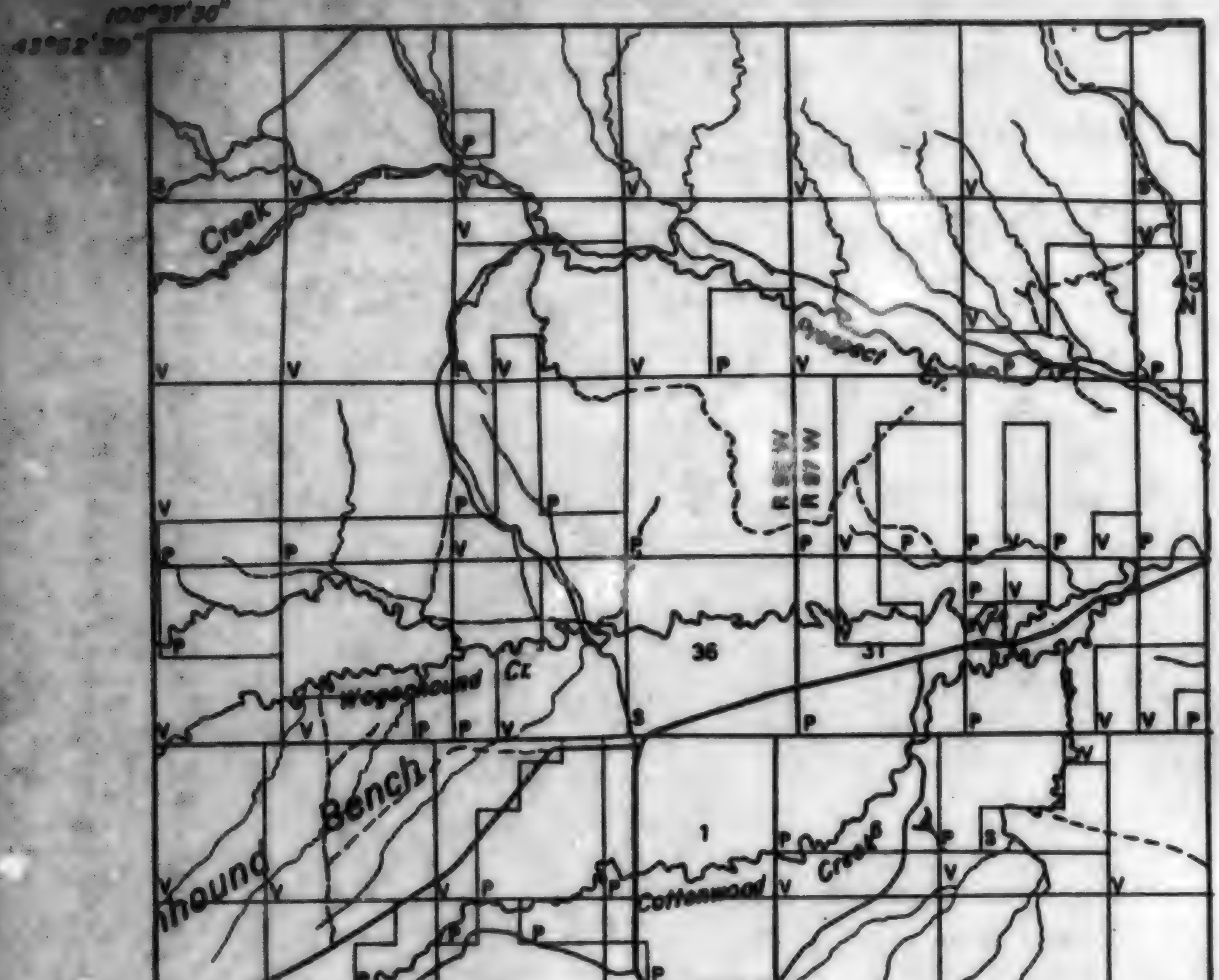
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Development						
1. No name spring	none	0604	NESE	5	45	97
2. Guzzlers	catchments			2,11,12	45	98
				7,8	45	97
Wells						
1. Ilo Well	-	0604	SENW	6	45	97
2. Hager Govt Well 2	14 gal/min	0678	NWSE	1	45	98
3. Hogback well	25 gal/min	0523	NWNW	10	46	98
4. Rankins Bros Well	-	0621	NWNW	15	46	98
5. Ilo Deep Well	14 gal/min	0621	NWNE	15	46	98
Stream Rehabilitation						
1. Kester Coulee	.25 miles	0678	SWSE	10	45	98
Fence Modification	2.5 miles	0604/0535		7,8,9	45	97



Grass Creek Basin N.W.
(Grass Creek)

Grass Creek Northwest (Grass Creek)

Proposed Actions	Kind/Amount Adjudicated yield	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Spring-unnamed	none	0637	NWSW	34	46	99
2. P.W. Spring	-	0678	NWNE	6	45	98
3. unnamed spring	-	0678	SE	7	45	98
4. unnamed spring	-	0678	SWNW	7	45	98
5. Kellogg spring	2 gal/min	0637	SESW	9	45	99
6. unnamed	-	0605	SWNW	10	45	99
7. Guzzlers	catchment	0605		5,6	46	98
8. Guzzlers	catchment	0605		31	47	98
9. Guzzlers	catchment	0605		7	46	99
10. Guzzlers	catchment	0531		11	45	99
11. Brown well	100 gal/min/not adj	0531	NWSW	1	45	99
12. Spring Gulch well	-	0531	NWNW	1	45	99
13. Hagar Govt well	14 gal/min	0678	SENW	1	45	98
14. Kellogg Well	12 gal/min	0637	SWNW	17	45	99
15. 4 corners well	30 gal/min	0530	SWSW	18	46	98
Stream Zone Rehabilitation						
1. Grass Creek	.1	0605	SWSE	13	46	99
2. Grass Creek	.1	0605	SESW	14	46	99
3. Enos Creek	.25	0605	SE	35	47	99
4. Other	1.4	0605		3,10	46	99
Vegetation Manipulation						
1. Brush beat	40 acres	0605		6,7	46	98
Fence Modification						
1.	3.75 miles	0530/0605		7,8,9	46	98
2.	1.5 miles	0545		4,5,6	46	98
3.		0545		31	47	98



Grass Creek Basin S.E.
(Hamilton Dome)

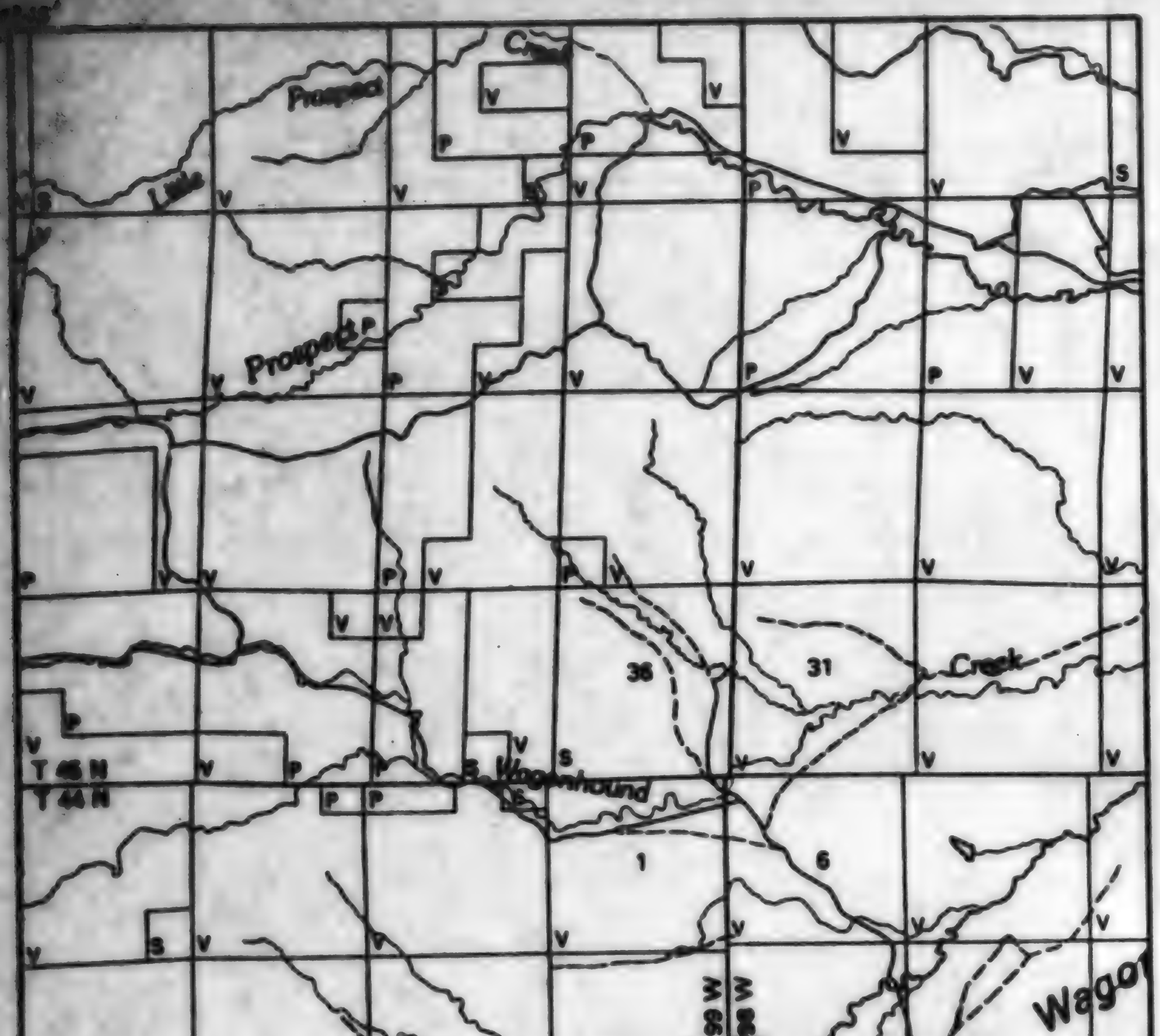
Grass Creek SE (Hamilton Dome)

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Guzzlers	catchment	0646		29	44	97
2. Guzzlers	catchment	0593,0596	secs.2,4,21,22,25,27			
					44	98
3. Guzzlers	catchment	0529,0535	secs. 18,21,30		45	97
4. Guzzlers	Slick Rock & Catchment		secs. 12,23,28		45	98
5. Crackerbox Spring	4 gal/min	0535	NWSE	17	45	97
6. Spring unnamed	1 gal/min	0504	NENW	17	44	97
7. Spring unnamed	1 gal/min	0535	SWSW	17	44	97
8. Spring unnamed	1 gal/min	0537	NENW	29	44	97
9. Treater Water	1 gal/min	0504	NWSE	11	44	98
10. Treater Water	1 gal/min	0504	NWSW	12	44	98
11. Treater Water	1 gal/min	0504	NENE	13	44	98
12. Treater Water	1 gal/min	0504	NWSW	14	44	98
13. Spring/seep	1 gal/min	0504	NESW	24	44	98
14. Seep	-	0535	NENW	17	45	98
15. Spring	1 gal/min	0678	SWNW	14	45	98
16. Seep	1 gal/min	0678	NENE	15	45	98
17. Spring	1 gal/min	0529	SWSE	15	45	98
18. Spring	1 gal/min	0529		21	45	98
19. Spring	1 gal/min	0535	SENW	24	45	98
20. Slick Rock	-		SWNE	22	45	98
Wells						
1. Lake Well	6 gal/min	0596	NENW	28	45	98
2. Sanford No. 3	20 gal/min	0535	NESE	19	45	97
3. Sanford No. 5	18 gal/min	0535	NWSW	19	45	97
4. Sanford No. 4	18 gal/min	0535	SESW	13	45	98
5. Luke McNeil	-	0573	SENE,SESE	35	45	98
Stream Zone Rehabilitation						
1. Prospect Creek	3.35 miles	0529,0535	secs. 14,15,21,22,23,24			
		0678			45	98
	1.1 miles			19	45	97
2. Kester Coulee	.6 miles	0678		15	45	98
3. Wagonhound Creek	.3 miles	0557,0573		31	45	97
	1.3 miles		secs. 33, 35		45	98
4. Cottonwood Creek	.4 miles	0504,0573		10	44	98
5. Treater water flows	5.0 miles	0504	secs. 5,7,17,18,19,30		44	98
			secs. 10,11,12,13,14,15		44	98
Fence Modification						
1.	1.25 mile	0573/0596	secs. 4,9,10		44	98

Wet Meadow/Watershed Development

1. Inventory Potential sites

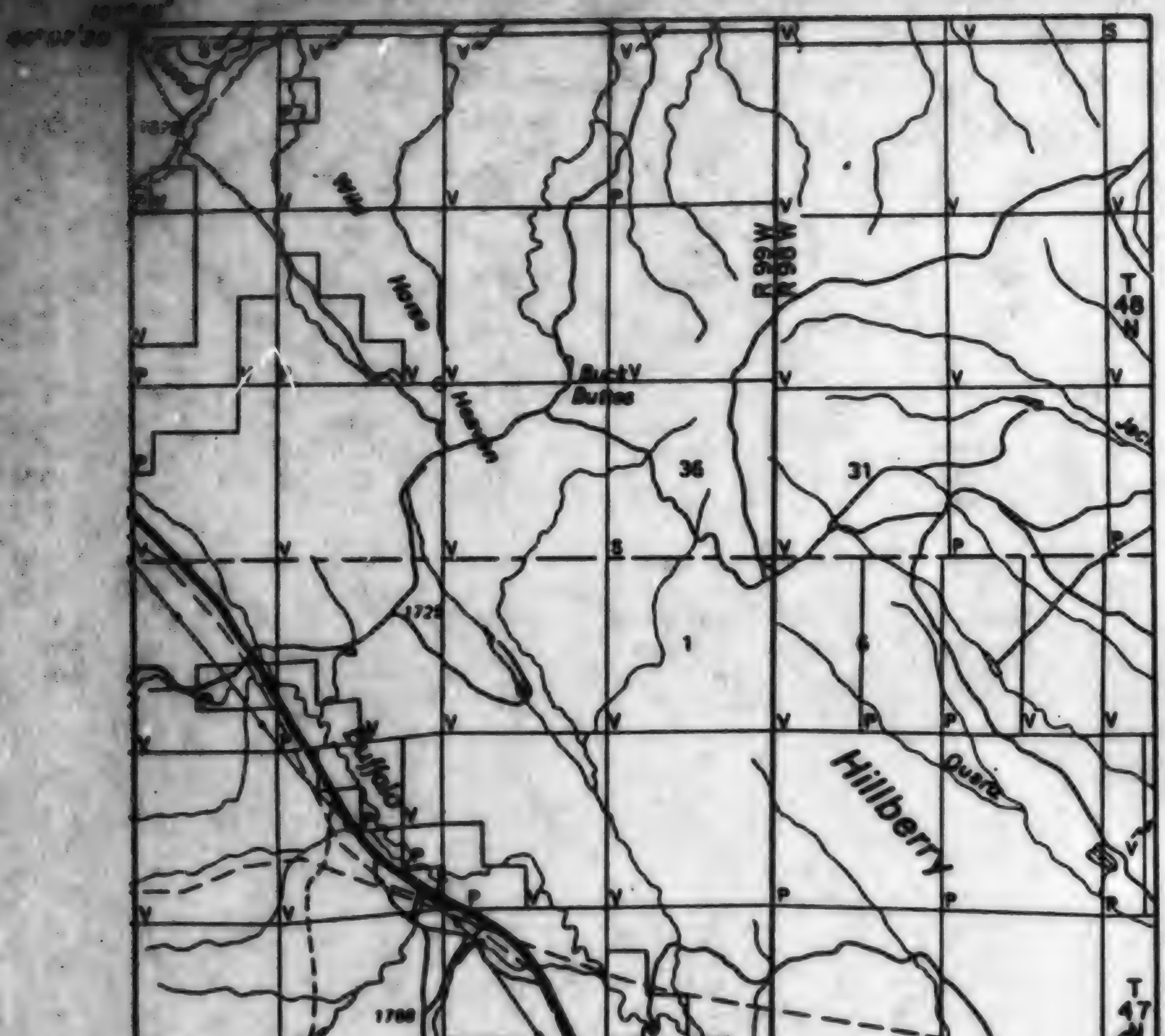
sec. 35, T. 45 N., R. 98 W.
sec. 9, T. 44 N., R. 97 W.



Grass Creek Basin S.W.
(Crater Sink)

Grass Creek Basin SW (Crater Sink)

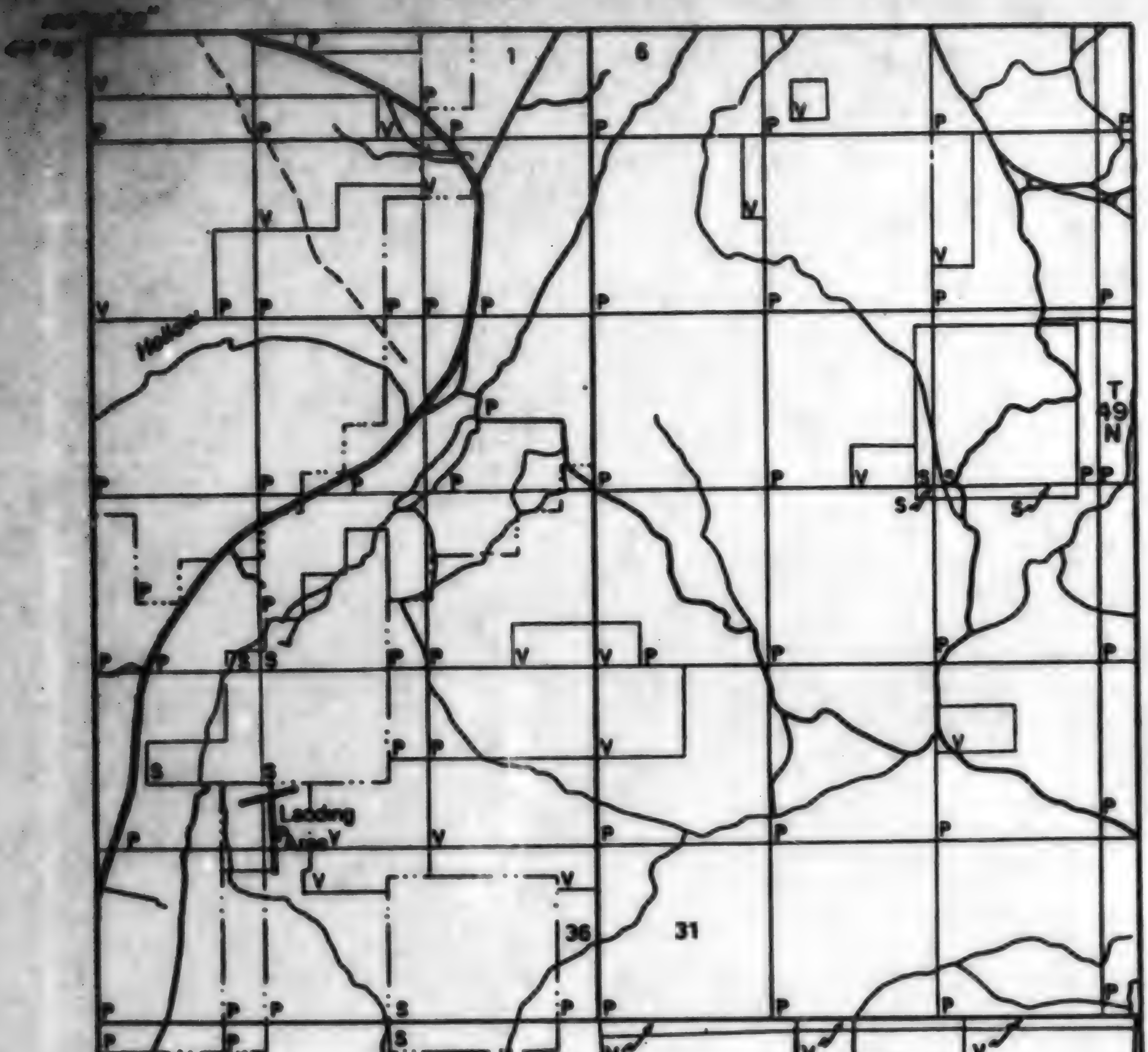
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. unnamed	2 gal/min	0634	SWNW	3	44	99
2. unnamed flow	1 gal/min	0634	SESE	4	44	99
3. unnamed	1 gal/min	0634	Lot 3	1	44	99
4. unnamed	-	0634	SESW	9	44	99
5. unnamed	-	0634	NWNW	10	44	99
6. unnamed	-	0634	SENE	10	44	99
7. unnamed	2 gal/min	0529	NENE	29	45	98
8. unnamed	-	0620	N½NE	28	45	99
9. unnamed	2 gal/min	0620	SWSE,SESW	25	45	99
10. unnamed	-	0620	SWNE	26	45	99
11. Guzzler	snowmelt catchment	0529	NE¼	29	45	99
			NW¼	30	45	99
12. Guzzler	snowmelt catchment	0596		8,30	44	98
13. Guzzler	snowmelt catchment	0596		12,13,29	44	99
14. Guzzler	catchment	0573		17,32	45	98
15. Guzzler	catchment	0529		15,24	45	99
Wells						
1. Rankine Well	40 gal/min	0620	NENW	28	45	99
Stream Zone Rehabilitation						
1. Little Prospect	1.69 miles	0620		13,14,15	45	99
2. Prospect	1.8 miles	0529		22,28	45	99
3. Cottonwood Creek	.15 mile	0553	NWNE,SWNW	22	44	99
3. Wagonhound Creek	2.68 mi	0553,0596	S½S½	15	44	99
Watershed/Channel Stabilization Wet Meadow Development						
1. Wagonhound drainage	inventory potential sites	0634,0553, 0596,			45	98,99
2. Prospect drainage	inventory potential sites	0620,0529			45	99
Fence Modification						
1.	1.5 miles	0573/0596	secs. 4, 5,		44	98
			sec. 32		45	98
2.	.5 miles	0553/0596	sec. 12		45	99



Hillberry Rim

Hillberry Rim

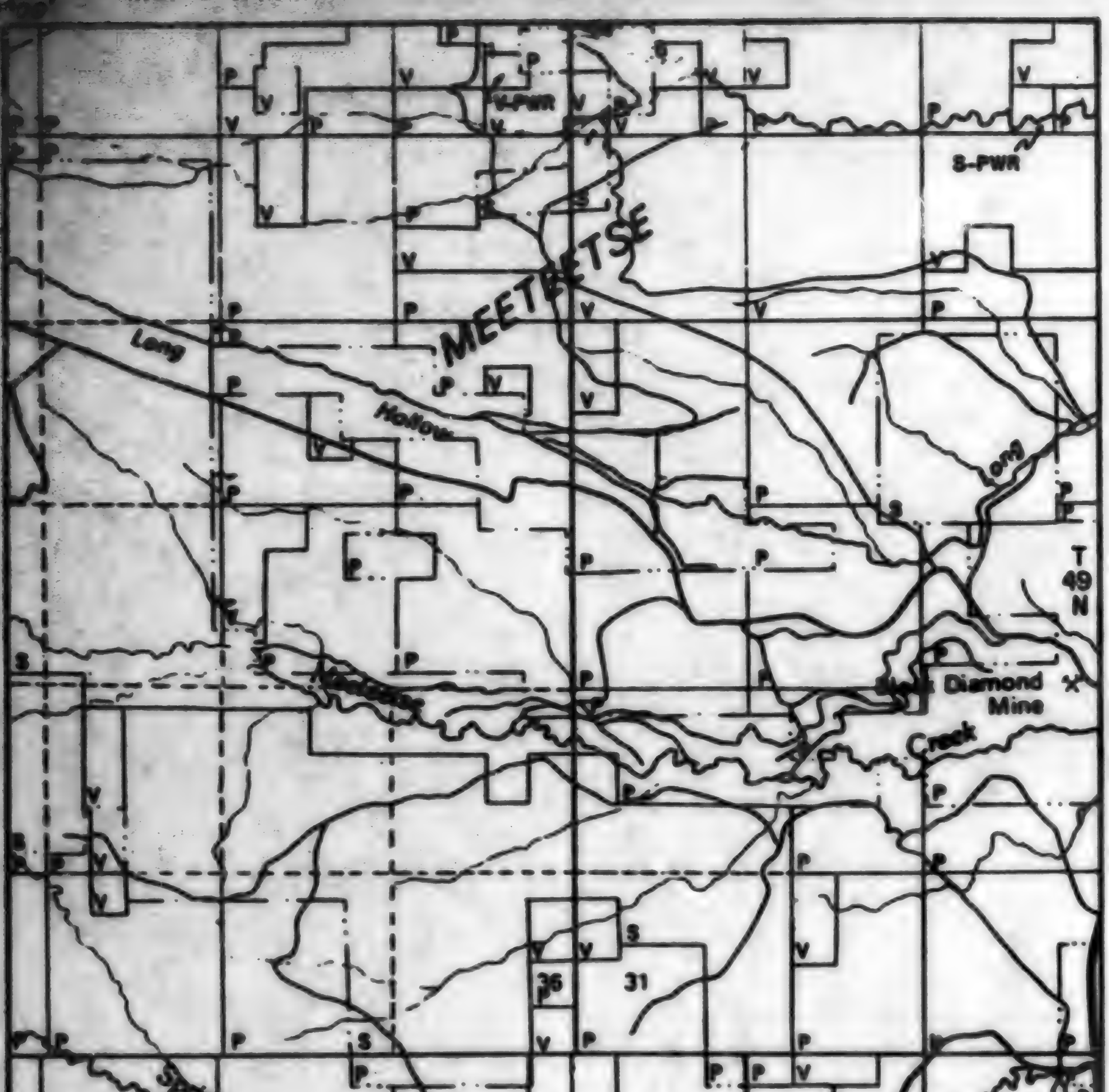
Proposed Actions	Kind/Amount	Grazing	Location			
	Adjudicated Amt.	Allot No.	Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. no name spring	-	0605	NWNW	28	47	99
Wells						
1. L U Lower Well	2 gal/min	0605	NESW	15	47	99
2. Unknown Well	-	0605	NWNW	21	47	99
Reservoirs/Wetlands						
1. No Name		0605	SWNW	23	47	99
2. No Name		0605	NWSE	26	47	99
3. Damselfly		0605	CNE¼	33	47	99
Guzzlers						
1.		0545	SWNW	25	47	99
2.		0605	NW¼	27	47	99
Stream Zone Rehabilitation						
1. Buffalo Creek	.3 miles	0605	N½SW	4	47	99
Vegetation Manipulation						
1. Brush beat or burn	40 acres	0605	secs. 9, 10, 15		47	99
Fence Modification						
1.	2.5 miles	0545	secs. 14,23,26		47	99
	.50 miles	0545		25	47	99



Meeteetse N.E.
(Meeteetse East)

Meeteetse NE (Meeteetse East)

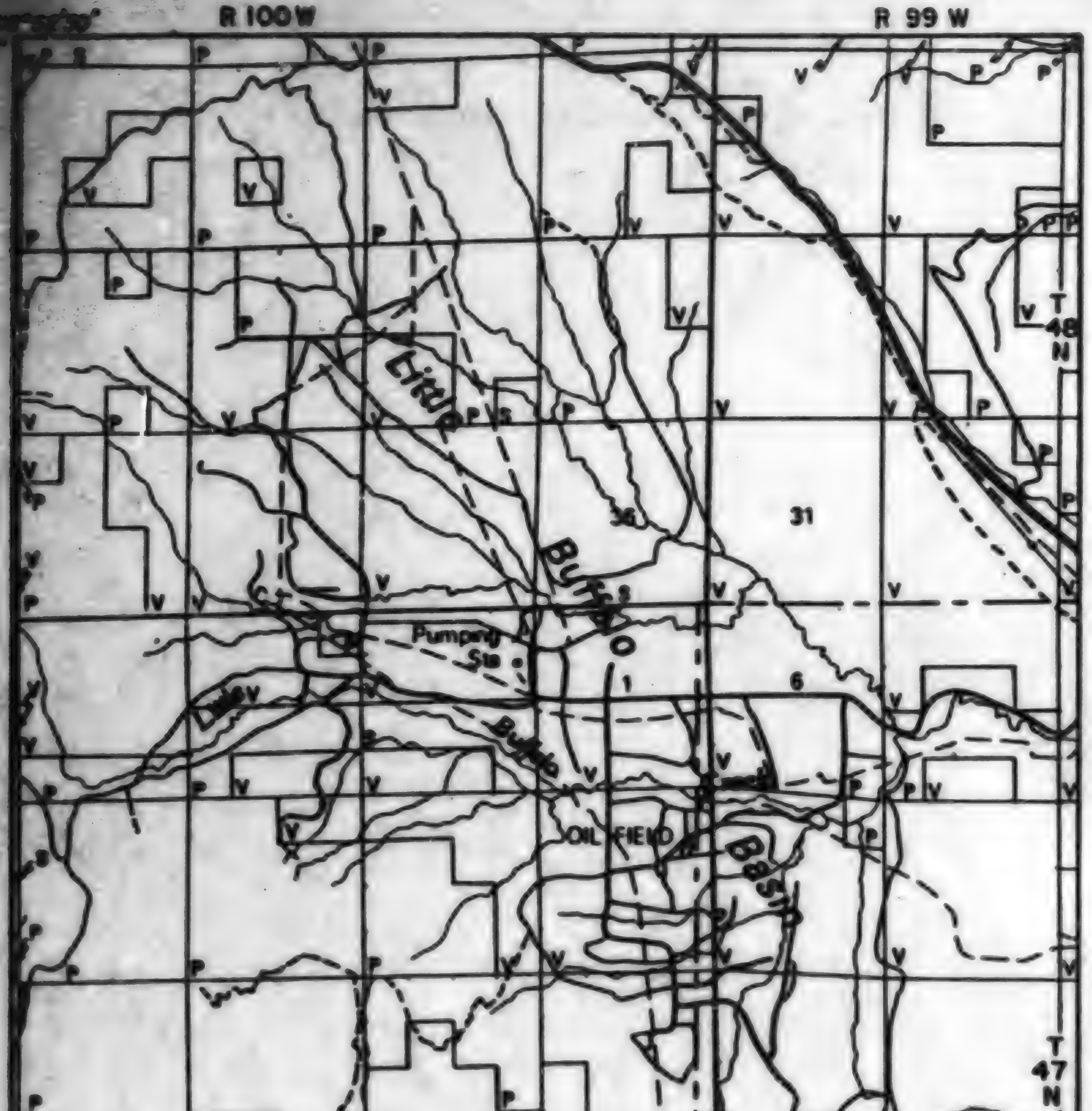
All lands in the NMP area of this quadrangle map are private and state.



Meeteetse N.W.
(Meeteetse West)

Meeteetse NW (Meeteetse West)

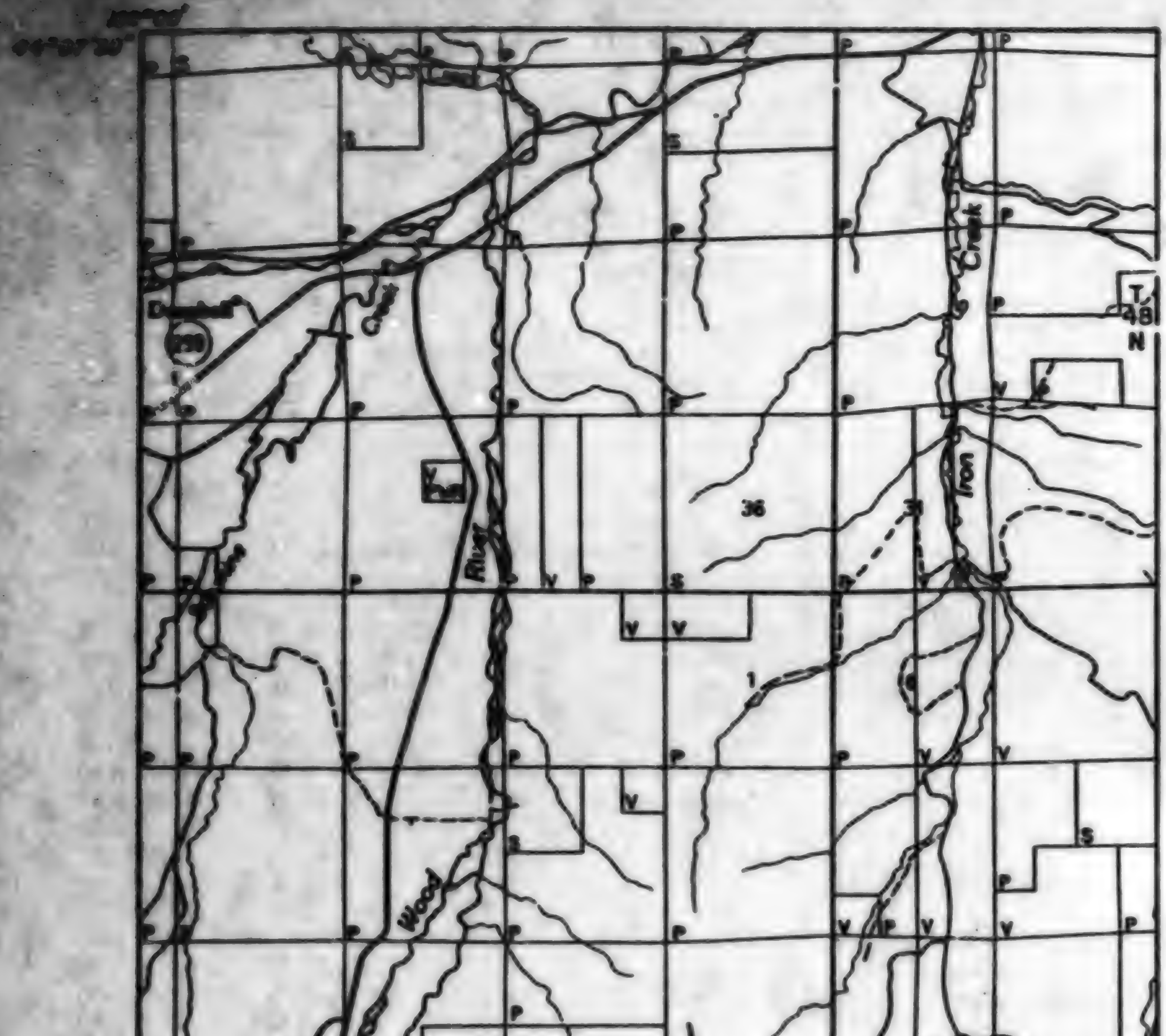
All [illegible] area lands on this quadrangle map are private.



Meeteetse S.E.
(Little Buffalo Basin)

Meeteetse SE (Little Buffalo Basin)

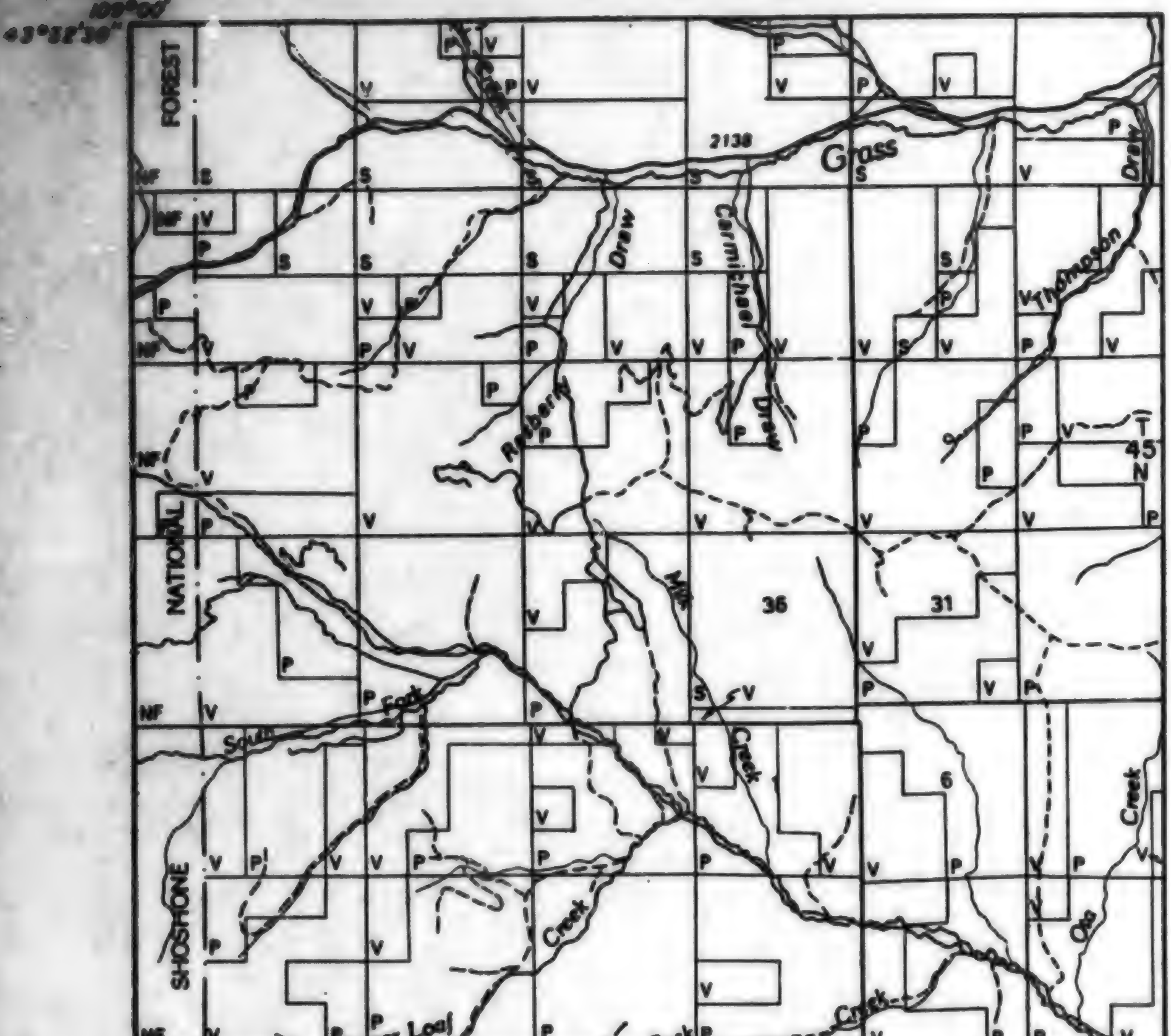
Proposed Actions	Kind/Amount	Grazing	Location			
	Adjudicated Amt.	Allot No.	Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Unnamed spring/treater water	1 gal/min	0605	NESE	7	47	99
2. unnamed	1 gal/min	0605	SESE	20	47	99
3. Iron Spring 1	1 gal/min	0595	NWSW	4	47	100
4. unnamed	1 gal/min	0594	SWSE	14	47	100
5. unnamed	1 gal/min	0564	NENE	24	47	100
6. unnamed	1 gal/min	0594	SENW	24	47	100
7. spring/well unnamed	1 gal/min	2510/2526	SESW	34	48	100
8. unnamed	1 gal/min	0599	NENW	23	47	100
Guzzlers						
1.	slick rock or catchment	0605		31	48	99
2.	slick rock or catchment	0605		8	47	99
3.	slick rock or catchment	2510	N½NW	23	48	100
Stream Zone Rehabilitation						
1. Gooseberry Creek	.35 mile	0605	SESE,NWSE	30	47	99
2. Gooseberry Creek	.35 mile	0599	NWNW	25	47	100
3. Gooseberry Creek	.3 mile	0599	NENW	26	47	100
4. Gooseberry Creek	.25 mile	0599	NENW	27	47	100
5. Buffalo Creek	.1 mile	0605	SWNW	2	47	100
Treater flow	2.03 miles	0605		1,12	47	99
6. Treater water flow	1.25 miles	0605		7	47	99
				12	47	100
	1.3 mile	0605		34,35	48	100
7. Other perennial flow	.4 mile	0599		25,26	47	100
Vegetation Manipulation						
1. Brush Beat	80 acres	2511		27,28	48	100
2. Brush Beat	60 acres	0605		25,26	48	100
				31	48	99
				18,19	47	99
				13	47	100
3. Prescribed Burn	60 acres	2510		27,28	47	100
Reservoir Protection						
1. Cottontail		0605	NESW	26	48	100
2. Schultheis		2510	SESE	27	48	100
Wet Meadow Development						
1. Identify Site Potential		2510				
Fence Modification						
1. Net wire	5.5 miles	0605, 0564, 0594		1,2,3,12,13	47	100



Meeteetse S.W.
(Iron Creek)

Meeteetse SW (Iron Creek)

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location			
			Subdiv.	Sec.	Tp.	Rg.
Water Development						
1. Unnamed Spring	-	0627	NE	31	47	100
2. Unnamed Spring	-	0627	NWSW	17	47	100
3. Iron Spring 2	1 gal/min	0595		Lot 6	47	100
4. Unnamed Spring	-	2511	NWSE	31	48	100
5. Unnamed Spring	-	2510	SENE	29	48	100
Guzzlers						
1. Guzzler	Catchment	2533	SESW	24	47	101
2. Guzzler	Catchment	2563	NENW	1	47	101
Wells						
1. Clifton Renner Well	5 gal/min	0627	NESE	7	47	100
Stream Zone Rehabilitation						
1. Gooseberry Creek	.5 miles	0627		29,31	47	100
2. Iron Creek	.5 miles	2522		31	48	100
3. Other Drainages	.33 miles	0627	NWSW	17	47	100
4. Other Drainages	.55 miles	0627	W½W½	20	47	100
Vegetation Manipulation						
1. Prescribed Fire	180 acres	0627		6,7, 18,20	47	100
2. Prescribed Fire	20 acres	2533		24	47	100
3. Prescribed Fire	20 acres	2510		28,29	48	100
Reservoir Wetlands						
1. -	-	0595	NWSE	5	47	100
2. Rooster Res. & Sprg.	-	0627	NWSE	17	47	100
3. -	Reservoir	0595	NWNE	6	47	100
Fence Modification						
1. -	6 wire/1 mile	2522,2511	W½E½	31	48	100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43°32'30"
FOREST
NATIONAL
SHOSHONE
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2138
Draw
Carmichael Draw
Thompson
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Raeberry
Milk
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36
31
6
T 45 N
T 44 N
R 101 W
R 100 W
South Fork
Creek
Creek
Otto
Sugar Loaf
Sugarloaf Mountain
Squaw Teat Butte
Buck Creek
Lake Creek
JEEP TRAIL
Cre
The Holy City
Creek
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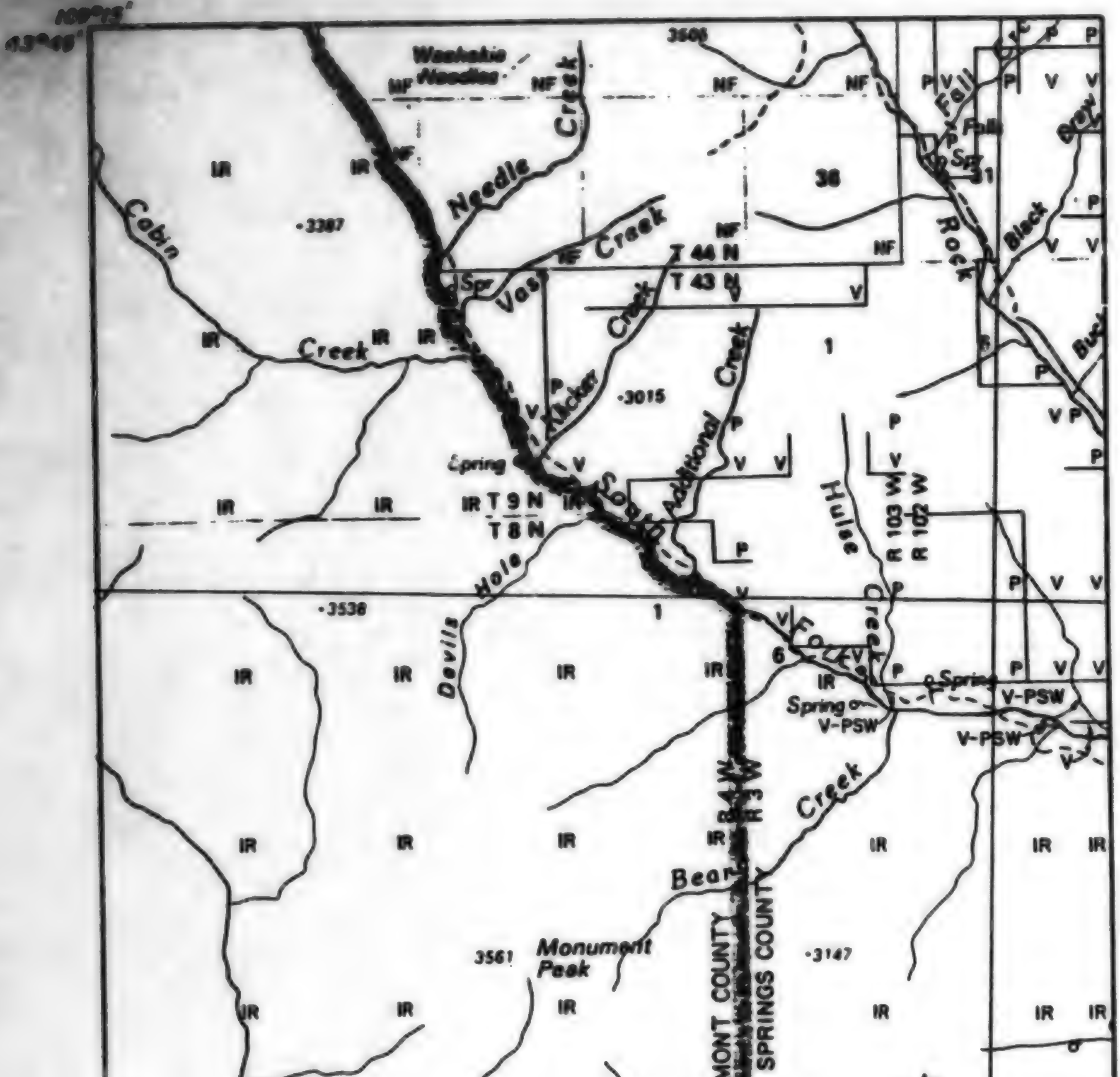
Milk Creek

Milk Creek

Proposed Actions	Kind/Amount	Grazing	Location			
	Adjudicated Amt.	Allot No.	Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. unnamed spring		0532	NWNE	18	44	100
2. unnamed spring		0532	NWSW	18	44	100
3. unnamed spring	1 gal/min	0532	NWNW	19	44	100
4. unnamed spring	1 gal/min	0551	E½SE	1	44	101
5. unnamed spring	none	0516	SWNE	3	44	101
6. unnamed spring	none	0516	SWNW	10	44	101
7. unnamed spring	1 gal/min	0551	Lot 2	1	44	101
8. unnamed spring	1 gal/min	0558	NWSE	14	44	101
9. unnamed spring	1 gal/min	0516	SWSW	4	44	101
10. SF Cottonwood Crk	-	0516	SWNW	4	44	101
11. unnamed spring	1 gal/min	0558	SWNW	13	44	101
12. Thompson spring	3 gal/min	0606	SWNE	30	45	100
13. unnamed spring	-	0605	NWSE,SWNW	28	45	101
14. unnamed spring	1 gal/min	0606	SESW	26	45	101
15. unnamed spring	-	0606	NESW	26	45	101
16. unnamed spring	-	0516	CNW¼	35	45	101
17. unnamed spring	-	0633	SWSE	5	44	100
18. unnamed spring	-	0633	NWSW	6	44	100
Stream Zone Rehabilitation						
1. Cottonwood Creek	.5 miles	0516,0532	SWNW	7	44	100
			Lot 3	2	44	101
2. SF Cottonwood Creek	.4 miles	0516		3,4	44	101
3. Blue Creek	1.35 miles	0516		3,9	44	101
				34	45	101
4. Milk Creek	.4 miles	0552	NW¼	1	44	101
5. Buck Creek	.33 miles	0532	SW¼	7	44	100
6. Other flows	.3 miles	0661	NENE	29	44	101
7. Other flows	.95 miles	0661		28	44	101
8. Other flows	1.30 miles	0532		18,19	44	100
9. Other flows	.15 miles	0633	SWSE	8	44	100
Vegetation Manipulation						
1. Prescribe burn	600 acres	0516	see burn plan			
2. Prescribe burn	500 acres	0606	develop burn plan via range coordination			
3. Prescribe burn	100 acres	0681	develop coordinated burn plan			
4. Prescribe burn	180 acres	661,680	develop coordinated burn plan			
5. Prescribe burn	80 acres	0552	develop coordinated burn plan			
6. Prescribe burn	40 acres	0532	develop coordinated burn plan			
7. Prescribe burn	40 acres	0558	develop coordinated burn plan			
8. Prescribe burn	40 acres	0558	develop coordinated burn plan			

Milk Creek (Continued)

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Remarks
Aspen Stand Regeneration			
1. Scattered Stands	300 acres	516,680,661 558, 633 552, 532	inventory/classify/ prioritize/implement treatment as needed.
Land Tenure Adjustment			
1. Acquisition	1000 acres	0516	Negotiate/mutually agreeable terms may include easements, acquisitions, gifts, bequests, purchase, etc.
2. Acquisition	1200 acres	0633	
3. Acquisition	160 acres	0606	
4. Acquisition	2400 acres	0680	
5. Acquisition	640 acres	0681	
6. Acquisition	240 acres	0552	



Monument Peak

Monument Peak

Proposed Actions	Kind/Amount	Grazing	Location			
	Adjudicated Amt.	Allot No.	Subdiv.	Sec.	Tp.	Rg.
Water Developments Spring/Wetlands Protection						
1. Snow Melt Catchment	Catchment	0525	S½	6	43	102
2. Spring Flow/Meadow	Stream Zone	0609	Lot 4	18	43	102
3. Max Spring	1 gal/min	0609	NENE	10	43	103
4. Unnamed Spring	-	0609	SWNW	11	43	103
5. Unnamed Spring	-	0609	NWNW	3	43	103
6. Unnamed Spring	-	0609	NWSE	3	43	103
7. Unnamed Spring	-	0609	SWSE	3	43	103
8. Unnamed Spring	1 gal/min	0542	NWNW	32	44	102
Stream Zone Rehabilitation						
1. S. Fork Owl Creek	5.4 miles	0609		3,10,11,13	43	103
				17,18	43	102
2. Rock Creek	.94 miles	0542		31	44	102
3. Fall Creek	.23 miles	0542		31	44	102
4. Vass Creek	.75 miles	0609		3	44	103
5. Klicker Creek	.20 miles	0609		10	44	103
6. Additional Creek	1.01 miles	0609		11	44	103
Vegetation Manipulation						
1. Prescribed Burn	60 acres	0609		7,8,17,18	43	102
		0609		3,11	43	103
Prescribed Burn	20 acres	0525		31	44	102
2. Aspen Treatment	60 acres	0609	Inventory/classify/implement			
	10 acres	0525	treatment as needed			

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Remarks
Land Tenure Adjustments			
1. Negotiated Acquisition	2240 acres	0609	
2. Negotiated Acquisition	320 acres	0542	
3. Negotiated Acquisition	1800 acres	0525	
4. Negotiated Acquisition	440 acres	0560	
5. Negotiated Acquisition	1920 acres	0597	
6. Negotiated Acquisition	160 acres	0584	

Monument Peak (Continued)

Coordinated Range Management

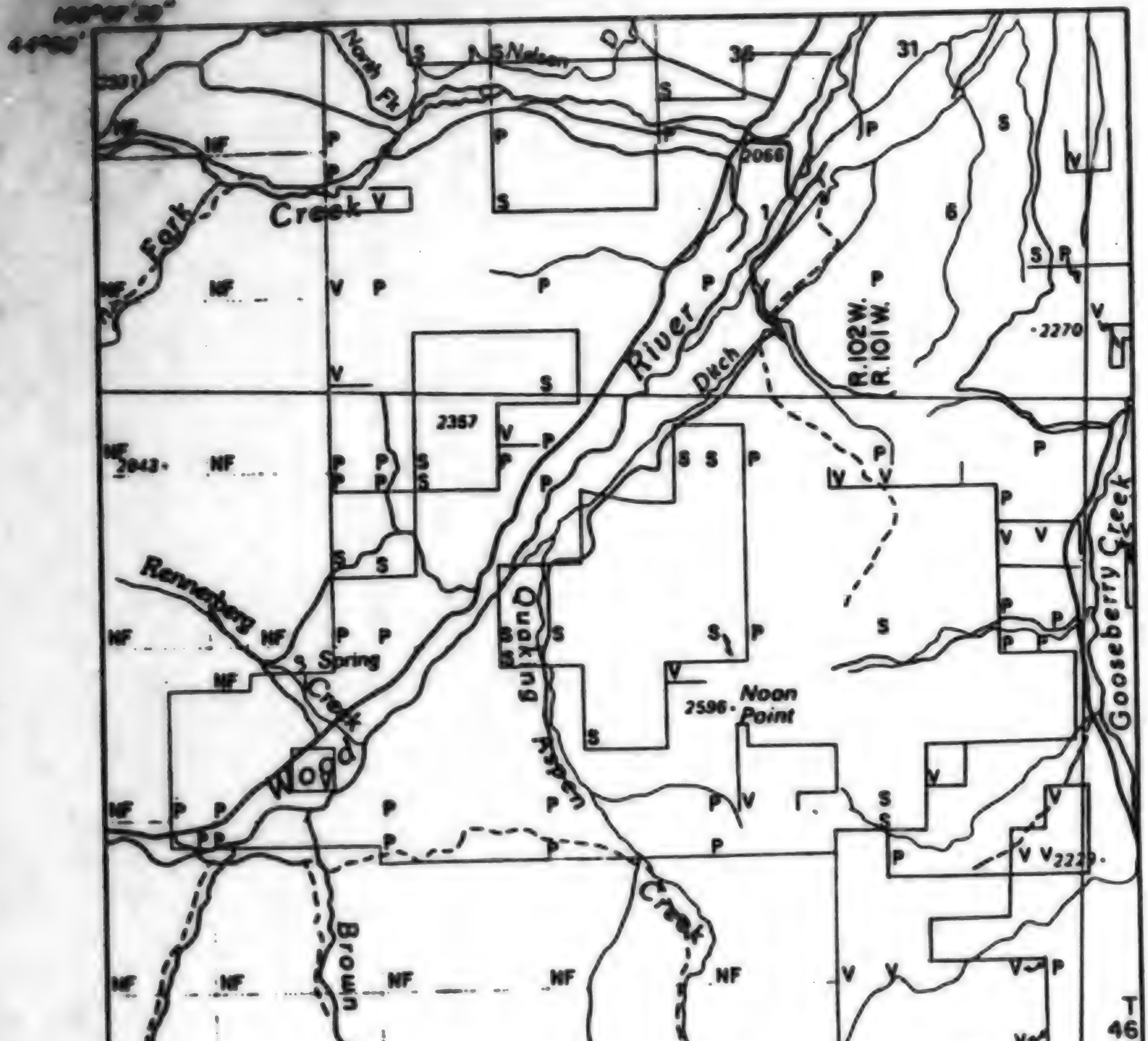
Livestock on FS and BLM Cooperative AMP Development and Administration

1. South Fork Owl Creek Drainage
2. Rock Creek Drainage

	Grz. Allot. No.	
Restoration of Habitat		
1. Bighorn Sheep	0609, 0542, 0575 0525, 0597, 0560	All of the latter allotments
2. Mitigation "in kind" for habitat loss		Same as 1 above

Road Closure

1. S. F. Owl Creek Road above Voss Cabin	Close to general public motorized access, foot and horse travel encouraged


108°07'30"
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2301
North Fk
Nelson
Fork
Creek
2066
River
Ditch
R.102W.
R.101W.
36
31
1
6
-2270
2357
2043
Rennenberg
Creek
Spring
Wood
Quaking
Aspen
Creek
2596 Noon Point
Gooseberry Creek
Brown
2229
T 46 N
PARK CO
HOT SPRINGS CO
2695
West Gooseberry Creek
Gooseberry
T 45 N
3027
R102W
2670
NF
P
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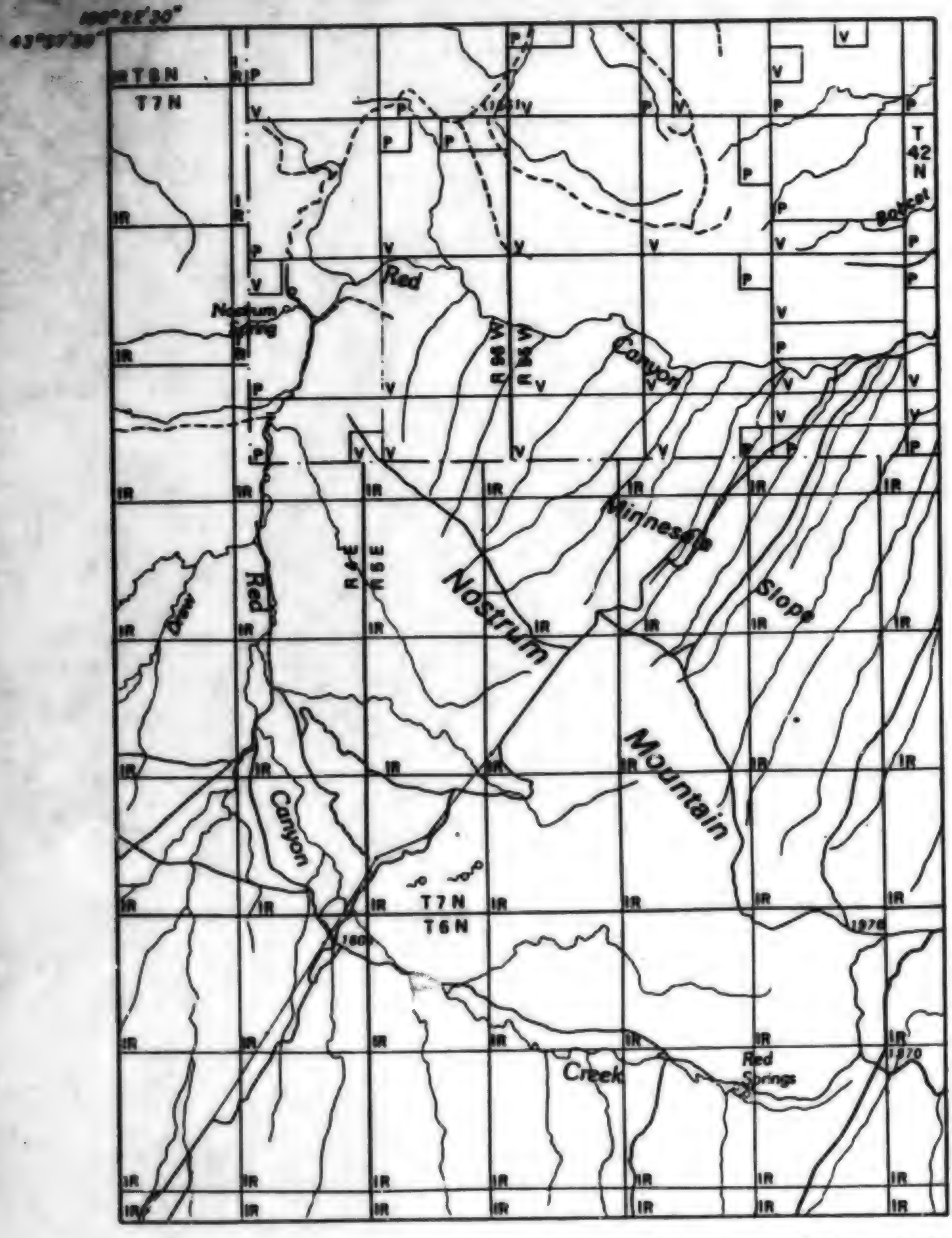
1
0
1 mile

Noon Point

Noon Point

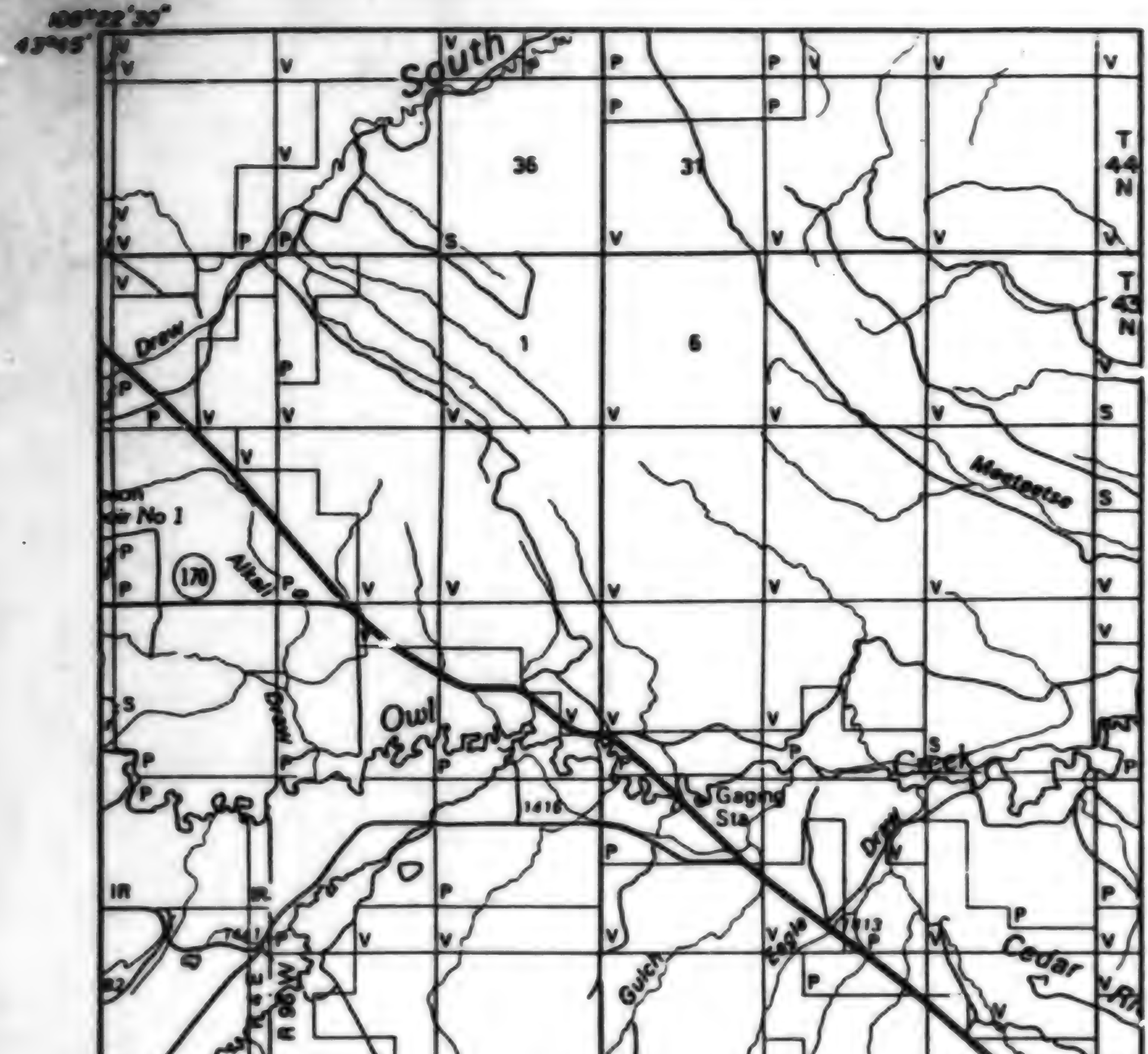
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Wetlands Development						
1. Aspen Pond	1 acre	0515	Lot 3	32	46	101
2. Unnamed Spring	-	0515	Lot 5	19	46	101
3. Unnamed Spring	-	0515		30	46	101
4. Unnamed Spring	-	0515	E½E½	25	46	102
5. Unnamed Spring	-	0515	E½E½	36	46	102
Stream Zone Rehabilitation						
1. Gooseberry Creek	.25 miles	0515	Lot 10	17	46	101
Aspen Regeneration						
1. Noon Point	200 acres	0515	Inventory/classify/treat as needed			
Prescribed Fire						
1. Hall Creek	Sage and Aspen	0515	See aspen above			
Land Tenure Adjustment						
1. Mutual agreement acquisition exchange up to 2400 acres		0515				
Cooperative Management						
1. Grazing	USFS-BLM livestock allotments	0515 & Forest	Develop cooperative AMPs & administrative plans			



Nostrum Mountain

Nostrum Mountain

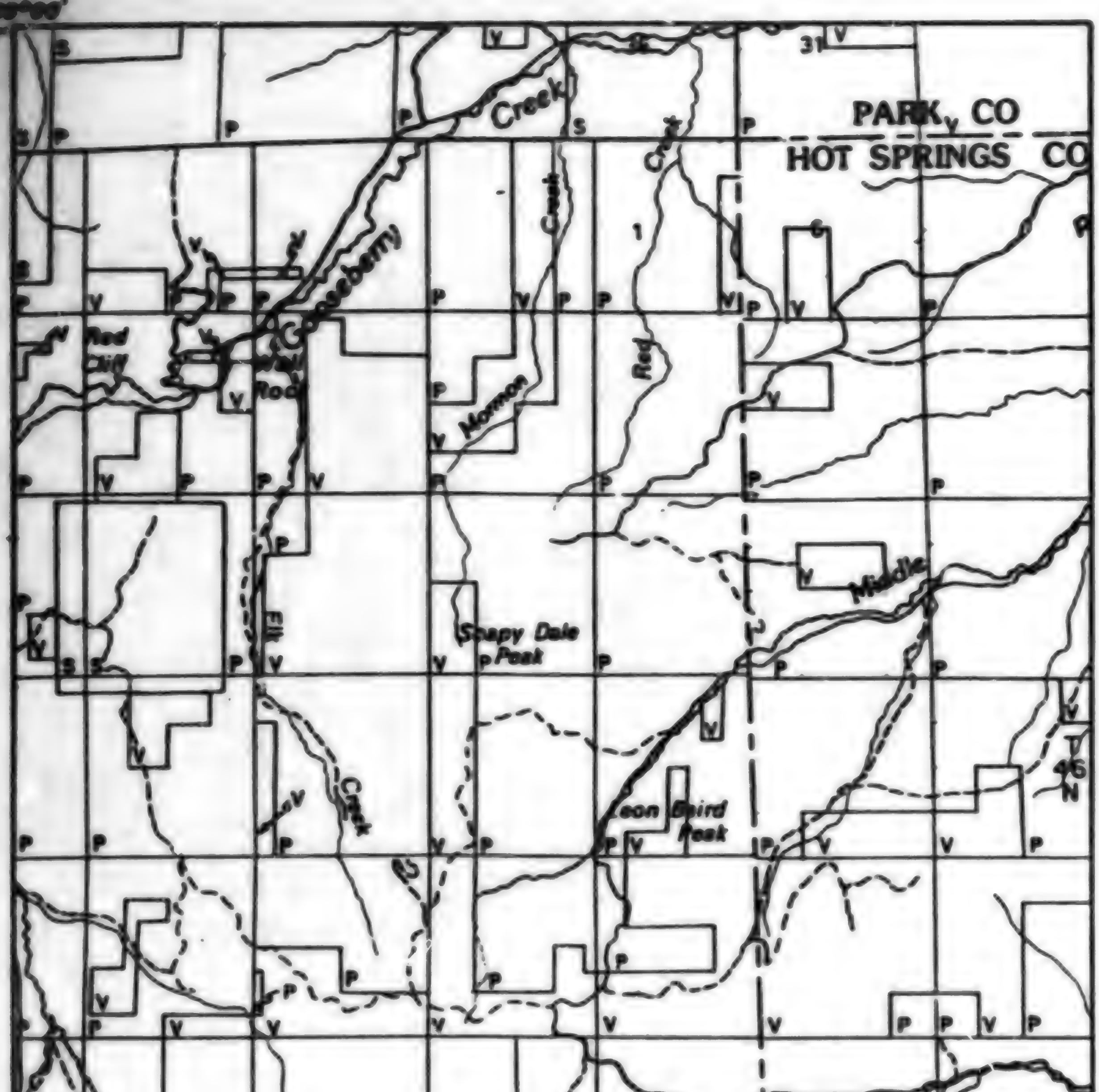
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Seep	-	2539	NWNW	17	42	95
2. Guzzler	Catchment	2539	SWSW	11	42	96
Stream Zone Rehabilitation						
1. Red Canyon Creek	3.21 miles	2539		19,20 21,22	42	95
				24	42	96



Rattlesnake Gulch

Rattlesnake Gulch

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
1. No Name Spring	1 gal/min	0610	SESE	19	43	95
2. No Name Spring	1 gal/min	0610	SWSW	20	43	95
3. No Name Spring	1 gal/min	0572	SWNE	30	43	95
4. No Name Spring	-	2539	SW	31	43	95



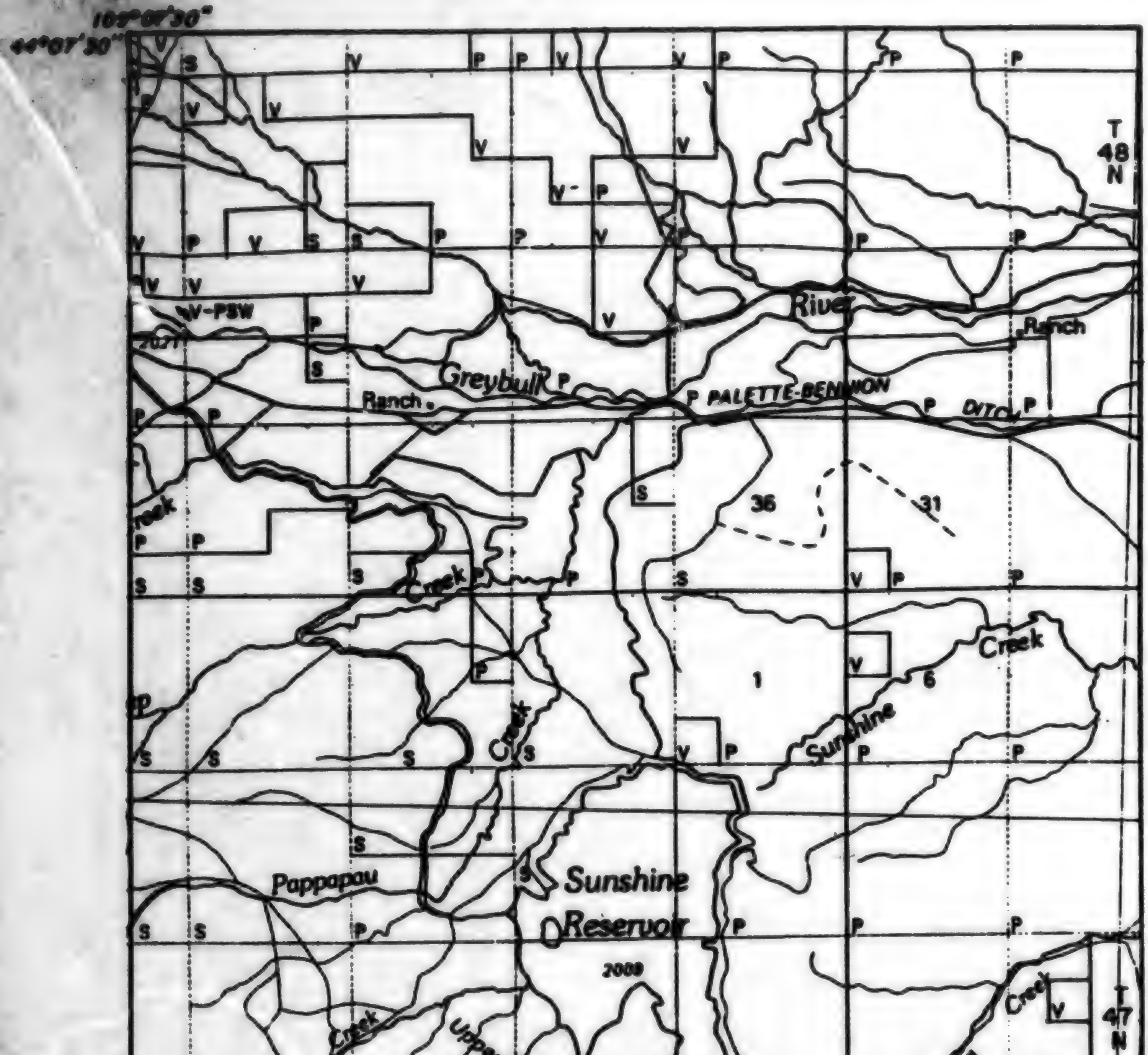
Soapy Dale Peak

Soapy Dale Peak

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Unnamed Springs (2)	1 gal/min	0606	NESW,SWNE	5	45	100
2. Unnamed Springs	1 gal/min	0606	SWNE	6	45	100
3. Head of Egbert Draw	1 gal/min	0606	SESE	6	45	100
4. Egbert Draw Sprgs (2)	-	0606	SWNW,NWSW	8	45	100
5. Unnamed Spring	1 gal/min	0606	Lot 11	1	45	101
6. Unnamed Spring	1 gal/min	0606	SESE	3	45	101
7. Unnamed Springs (6)	1 gal/min	0515	S½NW	4	45	101
8. Unnamed Spring	1 gal/min	0515	Lot 8	4	45	101
9. Unnamed Spring	1 gal/min	0515	SWSE	4	45	101
10. Unnamed Spring	1 gal/min	0606	NESW	9	45	101
11. Unnamed Spring	1 gal/min	0606	SWSW	9	45	101
12. Unnamed Spring	1 gal/min	0606	NWNE,NESE, SENE,SWNW	10	45	101
13. Unnamed Spring	-	0606	NWNW,SENW	9	45	101
14. Unnamed Spring	-	0606	NWSE	12	45	101
15. Unnamed Spring	-	0606	NWSW	29	46	100
16. Unnamed Spring	1 gal/min	0601	NWSW	11	46	101
17. Unnamed Spring	1 gal/min	0600	SWSW	14	46	101
18. Unnamed Spring	1 gal/min	0600	NENE	15	46	101
19. Unnamed Spring	1 gal/min	0672	SWSW	26	46	101
20. Unnamed Spring	1 gal/min	0672	Lot 6	27	46	101
21. Unnamed Spring	1 gal/min	0672	SWSE	27	46	101
22. Unnamed Springs (2)	1 gal/min	0672	N½NE	34	46	101
23. Unnamed Springs (2)	1 gal/min	0515	SESW	33	46	101
Stream Zone Rehabilitation						
1. Morman Creek	1.15 miles	0600-0601		2,11 14	46	101
2. Sanford Draw	.9 miles	0606		2,3	45	101
3. Roach Creek	1.0 miles	0606		12	45	101
				7	45	100
4. Deer Creek	.78 miles	0515		4	45	101
5. Egbert Draw	.8 miles	0606		7,8	45	100
6. Gooseberry Creek	.1 miles	0515		9	46	101
7. Elk Creek	.85 miles	0600,0672		23, 27,34	46	101
8. Enos Creek	.25 miles	0606		3	45	101
9. No Name Creek	.5 mile	0606	SW	9	45	101
Vegetation Manipulation						
1. Prescribed Burn	1700 acres	0606,0672		5,6, 7,8	45	100
		0619		1,2,3,9,10, 11,12	45	101
				19,20,30,31	46	100

Soapy Dale Peak (Continued)

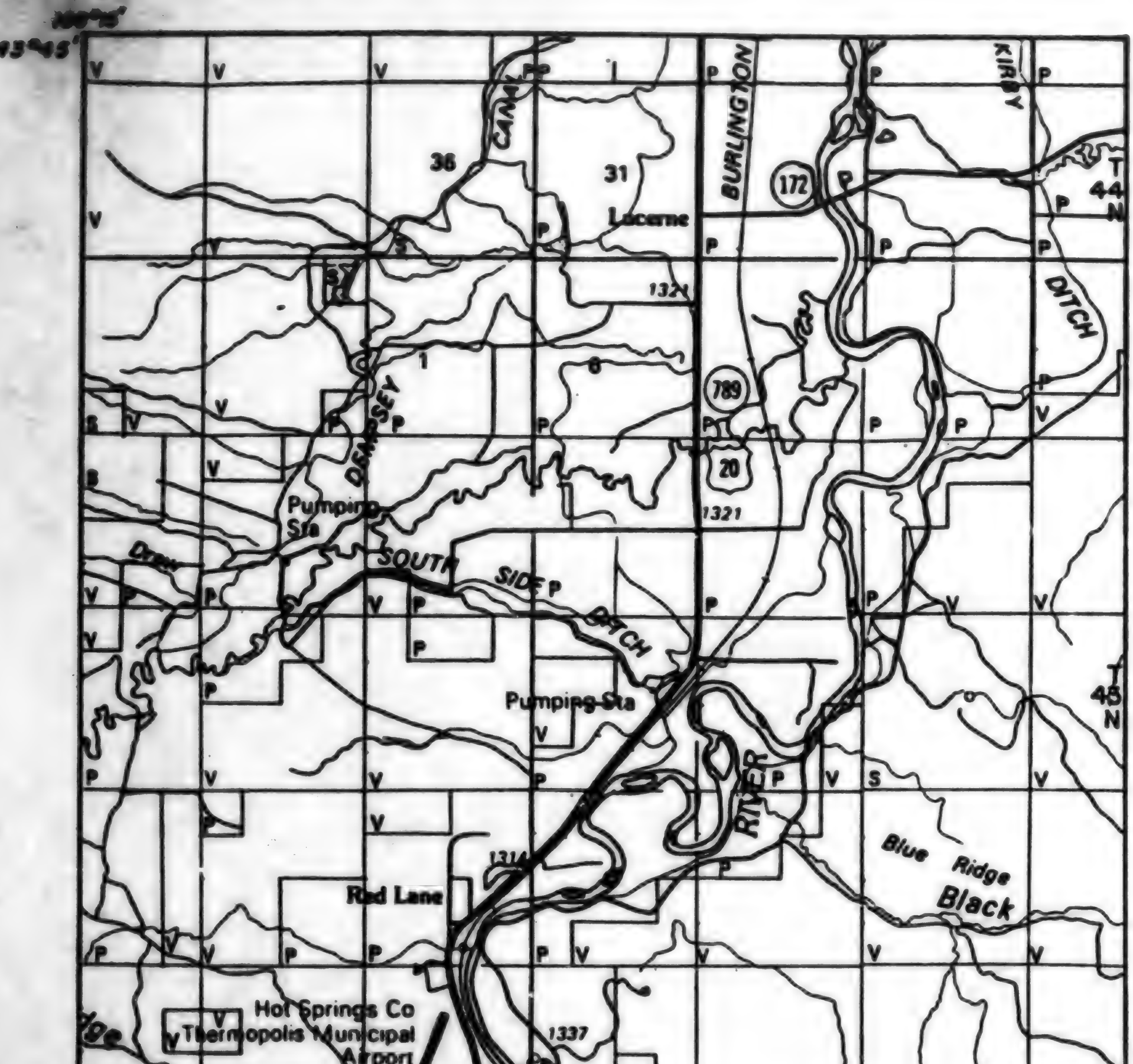
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Section	Tp.	Rg.
2. Prescribed Burn	300 acres	0515,0600	8,9,14,17,21, 23,28	46	101
3. Aspen Regeneration Treatment	300 acres	0606,0519, 0672,0600,0601	Scattered Stands		
Land Tenure Adjustments					
1. Negotiated Exchanges or acquisition, gifts, etc.	640 acres	0601	to be negotiated		
2. Negotiated Exchanges or acquisition, gifts, etc.	640 acres	0600	to be negotiated		
3. Negotiated Exchanges or acquisition, gifts, etc.	640 acres	0599	to be negotiated		
4. Negotiated Exchanges or acquisition, gifts, etc.	300 acres	0515	to be negotiated		
5. Negotiated Exchanges or acquisition, gifts, etc.	160 acres	0606	to be negotiated		
Road Use Restrictions					
1. Apply road density standards throughout this quad on public lands not to exceed 2 miles/square mile and less miles of road per section as cover decreases.					
2. Close Enos/Grass Creek Roads	3.5 miles	0606	1,2,3, 10,12	45	101
			6	45	100
3. Close Deer Creek Trail to motorized vehicles	1.1 miles	0515	4,9	45	101
4. Close Leon Baird Trail to motorized vehicles	3 miles	0672,	19,30	46	100
			25	46	101
5. Close Enos Creek Logging Road	1 mile	0606	2,3	45	101



Sunshine Reservoir S.E.
(Sunshine Reservoir)

Sunshine Reservoir S.E. (Sunshine Reservoir)

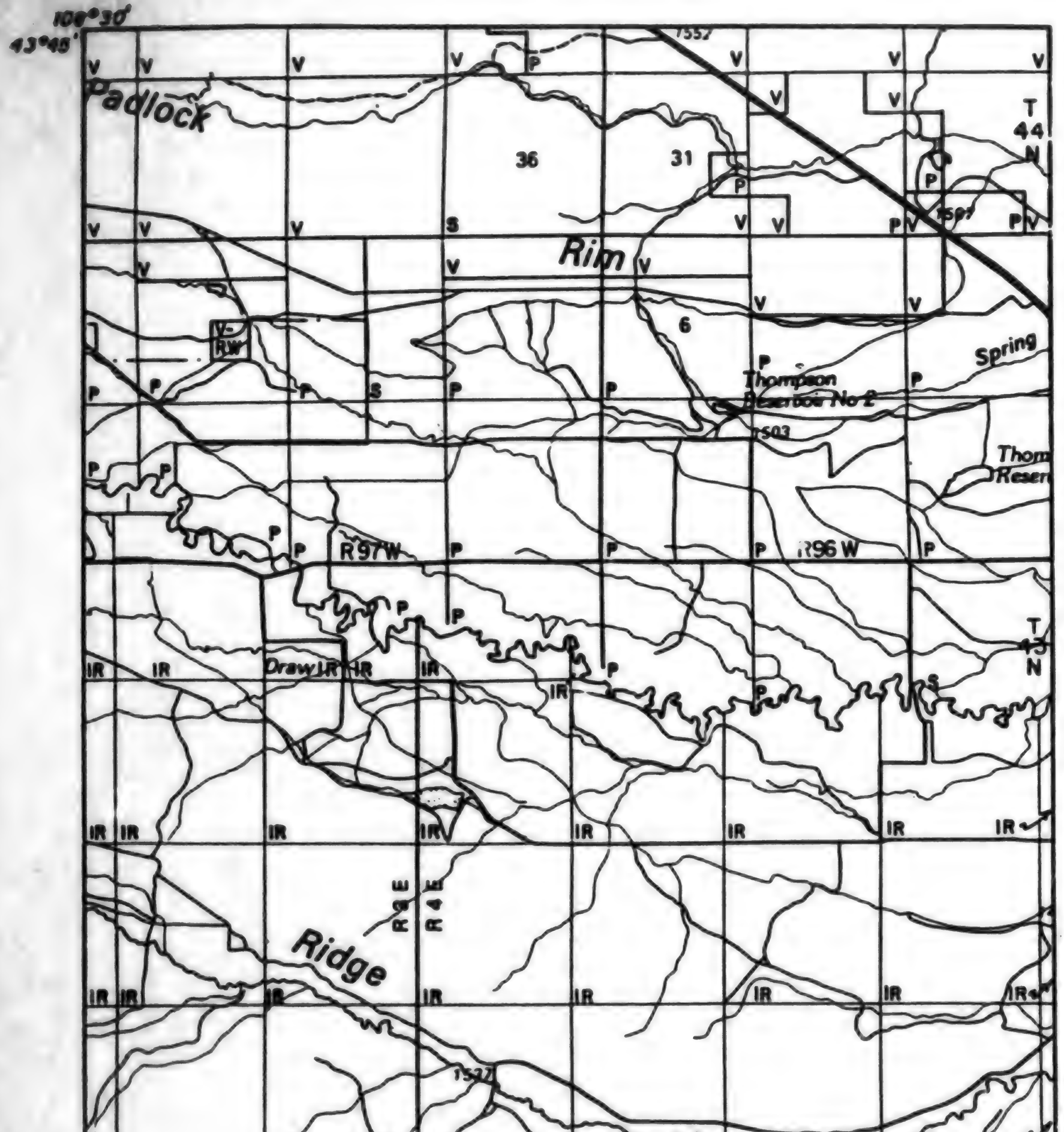
No public lands occur on this quadrangle map within the HMP area.



Thermopolis

Thermopolis

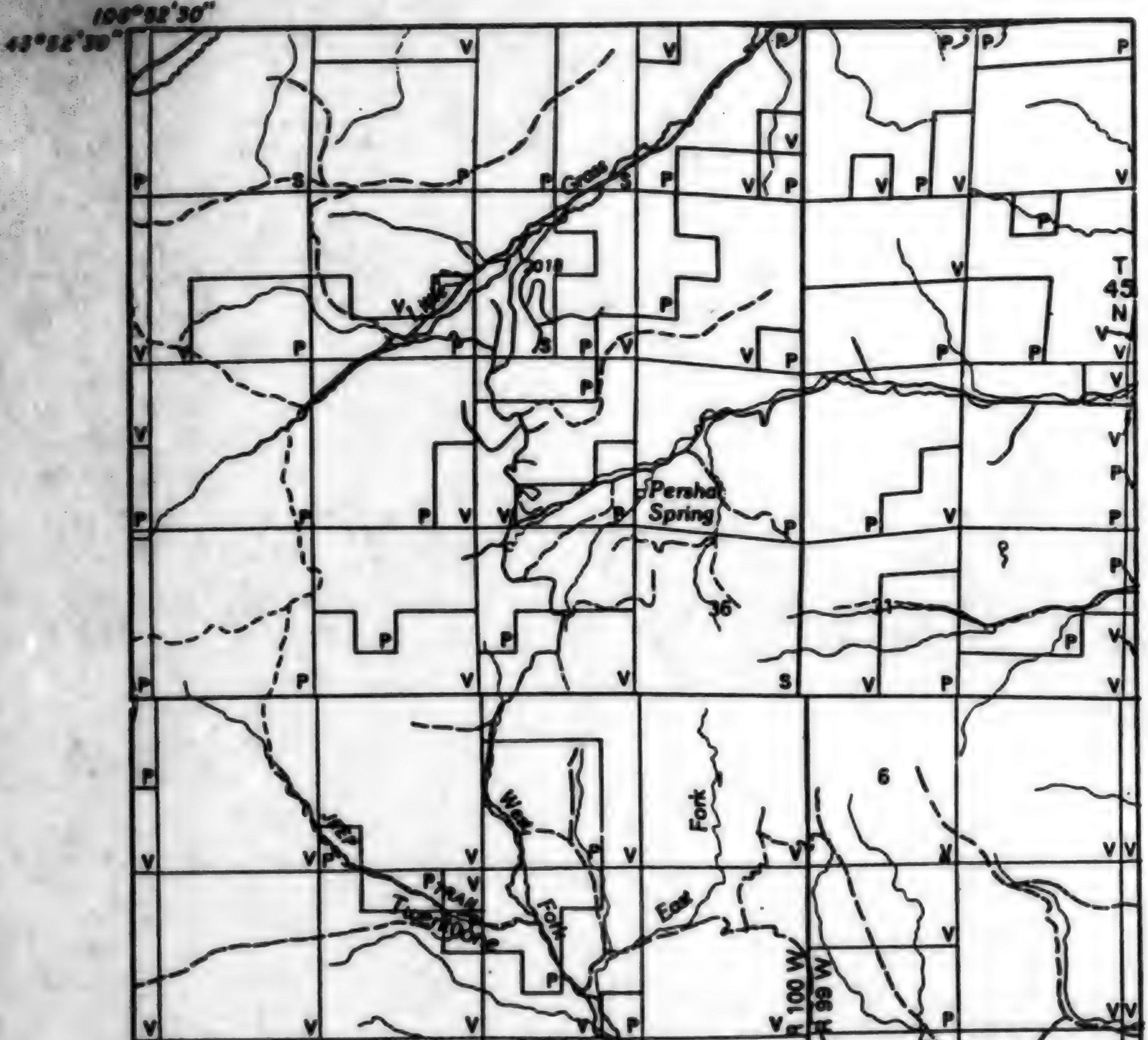
No public lands occur on this quadrangle map which are in the HMP area.



Thompson Reservoirs

Thompson Reservoirs

Proposed Actions	Kind/Amount	Grazing	Location			
	Adjudicated Amt.	Allot No.	Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Well unnamed	-	0646	SESE	25	44	97
2. Guzzler	Catchment	0646	NWNW	6	43	96
3. Guzzlers	Catchment	0646	NESW	34	44	97



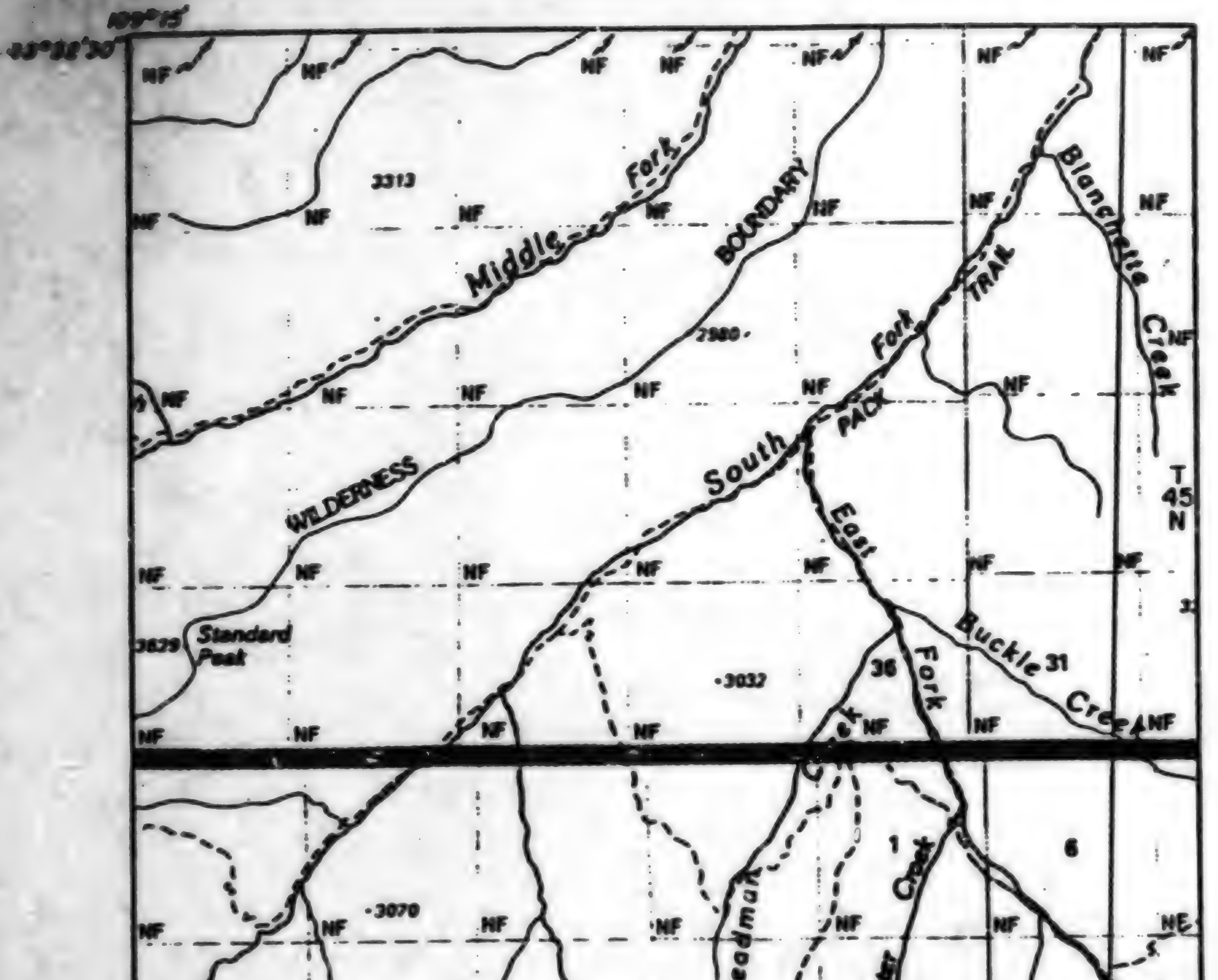
Twenty-one Creek

Twenty-One Creek

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location			
			Subdiv.	Sec.	Tp.	Rg.
Water Developments						
1. Ojinagua Spring (developed)	2 gal/min	0634	SESE	5	44	99
2. No Name Spring	1 gal/min	0634	NWSW	8	44	99
3. No Name Spring	1 gal/min	0634	NWSE	8	44	99
4. No Name Spring	-	0634	NENW	8	44	99
5. No Name Spring	-	0634	SWSW	8	44	99
6. No Name Spring	-	0634	SE	6	44	99
7. No Name Spring	-	0634	NWSE	6	44	99
8. No Name Spring	-	0634	SESE	6	44	99
9. No Name Spring	-	0634	NWSW	6	44	99
10. Rankine Springs (2)	1 gal/min	0620	NWNW	5	44	99
11. No Name Spring	-	0634	SESE	18	44	99
12. No Name Spring	-	0634	SWNW	17	44	99
13. No Name Spring	1 gal/min	0634	Lot 3	1	44	100
14. Cabin Spring (developed)	1 gal/min	0634	Lot 7	1	44	100
15. No Name Spring	1 gal/min	0634	SENE	2	44	100
16. No Name Spring	-	0634	NESE	3	44	100
17. No Name Spring	-	0634	Center	3	44	100
18. No Name Spring	-	0634	NWNW	3	44	100
19. No Name Spring	1 gal/min	0634	Lot 2	4	44	100
20. No Name Spring	1 gal/min	0634	Lot 4	4	44	100
21. Granery Spring	1 gal/min	0634	SWNE	4	44	100
22. No Name Spring	1 gal/min	0634	SESE	5	44	100
23. No Name Spring	1 gal/min	0634	NWNE, SWNE	9	44	100
24. Rhodes Murdock Spring (developed)	1 gal/min	0634	NESE	9	44	100
25. No Name Spring	1 gal/min	0556	NWSW, SWSW	10	44	100
26. No Name Spring	1 gal/min	0556	NWSE	10	44	100
27. No Name Spring	1 gal/min	0556	SWNE	15	44	100
		0633	NESE	23	44	100
28. Brahma Spring (developed)	1 gal/min	0633	Lot 2	23	44	100
29. No Name Spring	1 gal/min	0607	SWNW	26	44	100
30. No Name Spring	1 gal/min	0637	NWSE	17	45	99
31. No Name Spring	-	0620	NWNE	19	45	99
32. No Name Spring	2 gal/min	0620	Lot 4	31	45	99
33. No Name Spring	2 gal/min	0620	NESW	31	45	99
34. No Name Spring	-	0633	NESE	30	45	99
35. No Name Spring	-	0633	SWSW	32	45	99
36. No Name Spring	1 gal/min	0605	NENW	24	45	100
37. No Name Spring	1 gal/min	0605	NESE	24	45	100
38. No Name Spring	1 gal/min	0634	E½SE	35	45	100
39. Treater Water	-	0605	SENW	26	45	100
40. No Name Spring	-	0605	NESE	13	45	100

Twenty-One Creek (Continued)

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Stream Zone Rehabilitation						
1. Twenty-One Creek	2.29 miles	0633, 0634,		4,11, 13	44	100
		0556		19	44	99
2. Prospect Creek	.3 miles	0620, 0633		29	45	99
				26	45	100
Vegetation Manipulation						
1. Prescribed Burn Limber Pine-Sage	120 acres	0605		21,22,24	45	100
				13,18	45	99
2. Prescribed Burn	60 acres	0606		21,13	45	100
3. Prescribed Burn	100 acres	0620		17,19,20	45	99
				5,6	44	99
4. Prescribed Burn	40 acres	0556		10,13,14	44	100
5. Prescribed Burn	160 acres	0634		5,6,7,17	44	99
				1,2,11,12	44	100
6. Prescribed Burn	40 acres	0524, 0607		9,21,29	44	99
7. Prescribed Burn	90 acres	0633		3,4	44	100
Land Tenure Adjustments						
1. Negotiated Acquisition Exchange, Gift or Other	400 acres	0633		3,10	44	100
				33	45	100


109°15'
43°52'30"
Middle Fork
BOUNDARY
WILDERNESS
South Fork
PACK TRAIL
Blanchette Creek
East Fork
Buckle Creek
Standard Peak
Deadman Creek
Sloughter Creek
Twin Peaks
Dome Mountain
3313
2980
3032
3629
3070
3609
3707
3795
3597
36
31
6
1
T 45 N
T 44 N
R103W
NF
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P

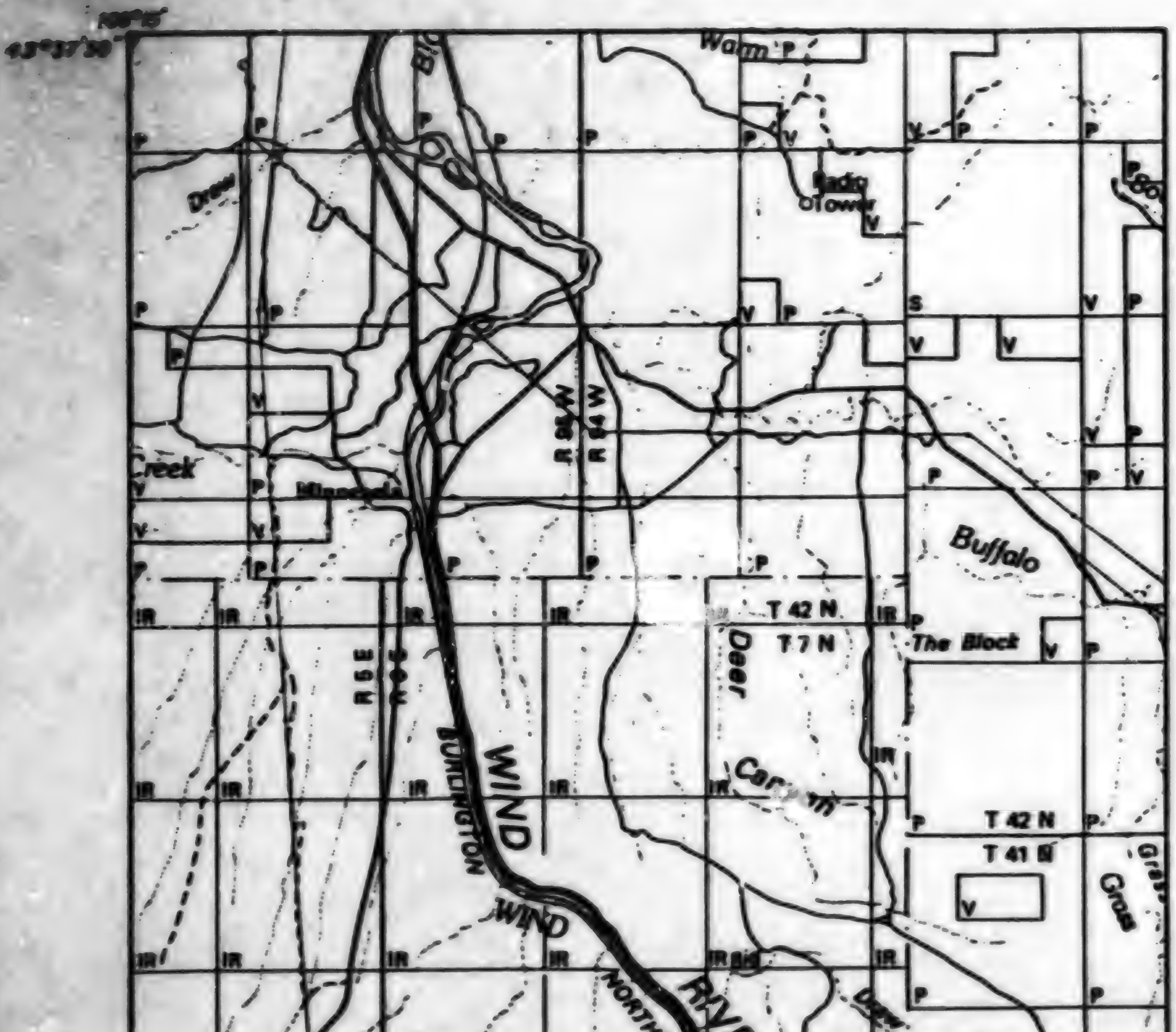
Twin Peaks

1
0
1 mile

Twin Peaks

The majority of lands on this quad fall in the HMP area and on USFS lands. Proposed actions are pending Shoshone National Forest planning and decisions.

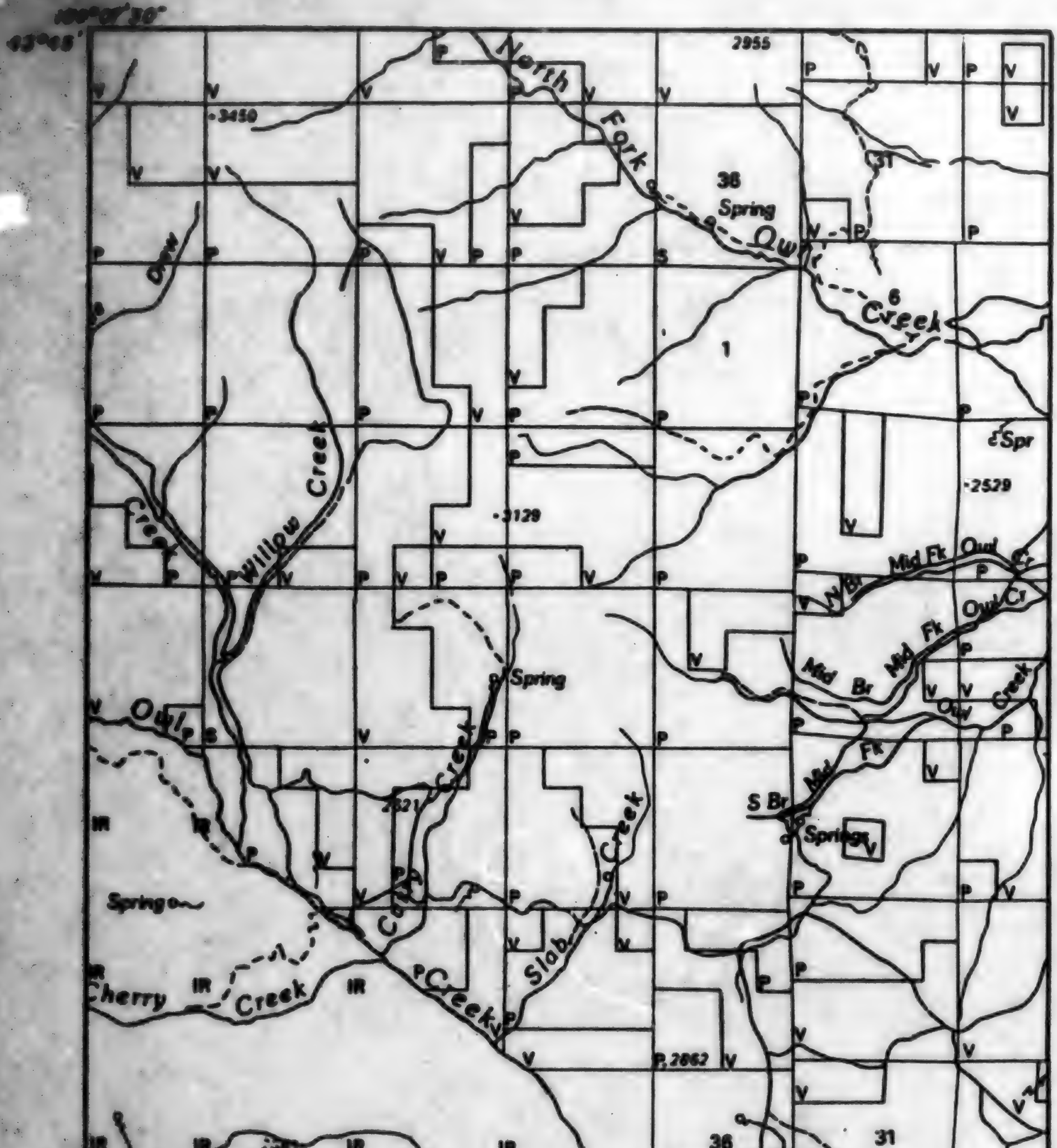
Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location			
			Subdiv.	Sec.	Tp.	Rg.
1. Snow Melt Pit	Collection	0542	N½N½	19	44	102
			SWSW	20	44	102



Wedding of the Waters

Wedding of the Waters

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Subdiv.	Sec.	Tp.	Rg.
Water Development						
1. No Name Spring	1 gal/min	2540	SWNW	23	42	95
Stream Zone Rehabilitation						
1. Red Creek	.75 miles	2540		22	42	95



Willow Creek

Willow Creek

Proposed Actions	Kind/Amount	Grazing	Location			
	Adjudicated Amt.	Allot No.	Subdiv.	Sec.	Tp.	Rg.
Water Development						
1. No Name Spring	1 gal/min	0568	NESW	5	42	101
2. No Name Spring	-	0575	SWSW	22	43	102
3. No Name Spring (2-3)	-	0575	NESE	23	43	102
4. No Name Spring	1 gal/min	0661	NWNW	2	43	102
5. No Name Spring	1 gal/min	0661	N½NE	3	43	102
6. No Name Spring	1 gal/min	0575	NENE	26	43	102
7. No Name Spring	1 gal/min	0661	Lot 3	25	44	102
8. No Name Spring	1 gal/min	0661	SWSW	25	44	102
9. No Name Spring	1 gal/min	0661	SWSE, SESW	25	44	102
10. No Name Spring	1 gal/min	0661	NESE	25	44	102
11. No Name Springs (3)	1 gal/min	0560	SESW, SWSE	27	44	102
12. No Name Spring	1 gal/min	0525	SWNE	32	44	102
13. No Name Springs (4)	1 gal/min	0661	NESE, NWNE	34	44	102
14. Snow Melt Catchment		0542	NWSE	29	44	102
Stream Zone Rehabilitation and Maintenance						
1. South Fork Owl Creek						
2. Slab Creek	.90 miles	0568, 0575	E½E½	23	43	102
3. Curry Creek	.18 miles	0575	NWNE	22	43	102
4. Willow Creek	.19 miles	0597	SWSE	9	43	102
5. No Name Creek	.3 miles	0575	NW	15	43	102
6. S. Fk. N. Fk Owl Cr.	.35 miles	0661		27,35	44	102
Vegetation Manipulation						
1. Prescribed Fire	80 acres	0597		8,9,10,21	43	102
2. Prescribed Fire	80 acres	0575		5,22,23	43	102
3. Prescribed Fire	30 acres	0615		15	43	101
4. Prescribed Fire	80 acres	0568		31,17,18	43	101
				6	42	101
5. Prescribed Fire	200 acres	0661		29,30,31,32	44	101
				7	43	101
				2,11	43	102
				35,34,25,26	44	102
6. Aspen Rennovation Treatments	150 acres	0661, 0597,0575		25, 35	44	102
		0568		7	43	101
				11	43	101

Willow Creek (Continued)

Proposed Actions	Kind/Amount Adjudicated Amt.	Grazing Allot No.	Location Section	Tp.	Rg.
Fence Modification					
1. Net Wire	2 miles	0575	10,15,22	43	102
2. Net Wire	1.3 miles	0568	29,30	43	101
Land Tenure Adjustment					
1. Negotiated Exchange, Gift, Acquisition	potentially 1000 acres	0661	27,34,35	44	102
			29,30,31,32	44	101
			1,2,34	43	102
			6,7	43	101
2. Negotiate Exchange, Gift, Acquisition	potentially 400 acres	0568	5,6	42	101
3. Negotiate Exchange, Gift, Acquisition	potentially 160 acres	0575	10,11,14,15	43	102
4. Negotiate Exchange Gift, Acquisition	potentially 1920 acres	0597	8,9,10,3,4	43	102
5. Negotiate Exchange Gift, Acquisition	potentially 1200 acres	0525	4,5	43	102
			32,33	44	102

APPENDIX I

EXCERPTS FROM GRASS CREEK STREAM HMP

AND

GRASS CREEK RESERVOIR HMP OBJECTIVES

APPENDIX I

Excerpt from Grass Creek Stream HMP and Grass Creek Reservoir HMP Objectives

A. Grass Creek Stream HMP Objectives

1. Manage trout habitat on PL streams by maintaining existing Class I and II condition banks and restoring banks from Class III and IV to I and II and modify other habitat parameters (water quality criteria, cover, spawning/incubation sites, and food production areas) to the extent feasible for support of viable trout fisheries.

2. Manage perennial streams and intermittent/ephemeral streams to restore and/or maintain riparian vegetation and channel stability for improvement of wildlife habitat, watershed conditions, and livestock production.

3. Reestablish trout fisheries in segments of PL streams such as Enos, Gooseberry, Grass, Cottonwood, North Fork Owl, and South Fork of North Fork Owl creeks where long-term survival of trout appears feasible if habitat restoration practice are implemented. (Completion of this objective is dependent on cooperation of adjacent landowners.)

4. Assist the recreation program in evaluating stream access needs and in formulating a plan that ensures compatibility between recreation and habitat management objectives.

5. Establish representative stream zone management comparison areas on PL segments of each major drainage and stream type to illustrate effects of proper management practices to adjacent landowners, to monitor stream improvement projects and practices with potential for use throughout the area, and to improve fish and wildlife habitat, watershed conditions, and livestock production. (Meets intent of EO 11990 in providing leadership in the field of proper wetland management.)

6. Implement stream zone restoration and maintenance projects and practices in every allotment containing significant stream zone reaches on PL.

B. Grass Creek Reservoir HMP

Waterfowl

1. Improve duck nesting and rearing habitat on 100 reservoir sites to regularly produce waterfowl during normal and wet water years. (This objective is measurable from a monitoring standpoint.)

Other Wildlife

1. Construct new and modify existing stock watering reservoirs to meet designated wildlife needs. (For monitoring purposes, this objective will be considered as fully reached when 50 percent of the maintenance and construction projects include provisions for improving wildlife habitat.)

APPENDIX J

WILDLIFE/VEGETATION TREATMENT CRITERIA

AND

IMPLEMENTATION CONSIDERATIONS

APPENDIX J

Wildlife/Vegetation Treatment Criteria
and
Implementation Considerations

Sagebrush land treatment practices will be applied in important wildlife habitat areas only to the extent that they are consistent with maintaining or enhancing wildlife habitat values. Treatments, area size, location, and mosaic patterns, and treatment application sequence will be designed to maintain or improve a balance of habitat diversity for food and cover on a continuing basis. Land treatment practices will not be applied in important wildlife habitat areas where such treatment will diminish the wildlife habitat values.

Sagebrush removal by burning is normally the most desirable method of treatment for wildlife habitat improvement. Mechanical control such as rotary beating can be used effectively in many situations. Chemical spraying is normally undesirable and should be used sparingly in important wildlife habitat areas.

The guidelines and considerations shown below will be helpful in planning sagebrush treatments in important wildlife habitat areas:

1. Analyze the wildlife habitat areas (block analysis concept, minimum of 5,000 acres) to determine amount and location of treatment that can be allowed and yet maintain habitat integrity.

2. Conduct joint field inspections with the Wyoming Game and Fish Department personnel on proposed sagebrush treatment areas for their review and input.

3. On sage grouse ranges:

    A. Control sagebrush only when canopy cover exceeds 25%. The USFS guidelines use 20% cover for *Artemesia tridentata* (*wyoming gensis*) and (*vaseyana*) and 33% for *Artemesia tridentata* (*tridentata*). Sage grouse use decline where canopy cover exceeds 30%.

    B. Exclude treatment from nesting and brood areas.

    C. Exclude treatment from crucial wintering areas.

    D. Exclude treatment from isolated stands of 10 acres or less that are located more than one mile from other sagebrush stands.

    E. It is desirable to retain 35 to 50 percent canopy cover or to create intermittent wet meadow areas along waterways. Treatment along live streams will be limited to burning or mechanical means.

4. On big game winter ranges:

   A. Where treatment is applied along sage-timber interfaces it will form an irregular mosaic pattern maintaining a minimum of 100 feet of sagebrush along timber edges and extending to a maximum of 1,300 feet. The alternate patterns extend equidistant along the sage-timber borders.

5. New treatment areas should be located at least 300 feet from natural openings in sagebrush stands.

6. Where understory density of desirable plant species is less than 10 percent seeding will be necessary to assure treatment success.

7. Treatments which convert coniferous or deciduous trees, shrubs and/or sagebrush to herbaceous forage will be conducted on sites with low soils erosion hazards and exhibit soil and geologic characteristics favoring water infiltration down through the soil mantle and not increase surface runoff.

8. Vegetative manipulation will be selected on the basis of soil compatibility with specific treatment types.

APPENDIX K

K-1 SPRING AND SEEP DEVELOPMENTS, PRIORITIZATION CATEGORIES - ABSAROKA FRONT HMP

K-2 WATER WELL DEVELOPMENT PRIORITIZATION - ABSAROKA FRONT HMP

APPENDIX K-1

Spring and Seep Prioritization Categories
Absaroka Front HMP

Priority 1

Name	Subdiv	Location Sec	Twp	Range	Adjudicated Federal Water Right	Allot. Number	
Bobbies Spg	NW¼NW¼	17	42	95	1 gal/min	2539	Wildlife only
unnamed	SW¼NW¼	23	42	96	1 gal/min (PWR 107)	2540	
unnamed	N½SW¼	31	43	96	none	2539	wildlife only
unnamed	SE¼NW¼	2	43	100	1 gal/min (PWR 107)	0654	
Ayer Spring	SW¼NE¼	2	43	100	1 gal/min	0654	
unnamed	SE¼SE¼	6	43	100	1 gal/min (PWR 107)	0614	
Campbell Spg	NE¼SE¼	4	43	100	2 gal/min	0540	
PBC	N½SE¼	4	43	100	2 gal/min	0540	
unnamed	NE¼SW¼	6	43	100	none	0540	wildlife only
unnamed	Lot 8	1	43	101	1 gal/min	0661	pending inven
unnamed	E½	2	43	101	4 spgs all 1 gal/min	0661	pending inven
unnamed	N½SE¼	3	43	102	1 gal/min	0661	
unnamed	NE¼NE¼	26	43	102	1 gal/min	0575	
unnamed	Lot 4	18	43	102	none	0609	Vass Cabin Spring flow across meadow
Max Spring	NE¼NE¼	10	43	103	1 gal/min	0609	
unnamed	SW¼NW¼	11	43	103	none	0609	
unnamed	Lot 4	7	44	97	yes	0596	Big Treater water area
unnamed	SW¼NW¼	3	44	99	2 gal/min	0634	on state land
unnamed	SE¼SE¼	4	44	99	none	0634	
unnamed	Lot 3	1	44	99	1 gal/min	0634	
unnamed	SE¼SE¼	18	44	99	none		good spring
Cabin Spring	NE¼SE¼	3	44	100	none	0634	fully devel
Brahma Spring	Lot 2	23	44	100	1 gal/min	0634	fully devel
Rhodes-Murdock	NE¼SE¼	9	44	100	1 gal/min	0556	fully devel
Grainery Spg	SW¼NE¼	4	44	100	1 gal/min	0633	fully devel
unnamed	E½SE¼	1	44	101	1 gal/min	0551	fence
unnamed	SW¼NE¼	3	44	101	none	0516	wildlife only
unnamed	SW¼NW¼	10	44	101	none	0516	excellent
unnamed	NE¼SE¼	5	45	97	none	0604	excellent
Crackerbox Spg	NW¼SE¼	17	45	97	4 gal/min	0535	needs overflow fence
PW Spring	NWNE	6	45	98	1 gal/min		fully developed
unnamed	SE¼	7	45	98	none		wildlife only
unnamed	SW¼NW¼	7	45	98	1 gal/min		wildlife only
unnamed	SWNW	14	45	98	1 gal/min	0678	
unnamed	NENE	15	45	98	1 gal/min	0678	
unnamed	SWNE	15	45	98	1 gal/min	0529	

APPENDIX K-1 (Continued)

Name	Location Subdiv	Sec	Twp	Range	Adjudicated Federal Water Right	Allot. Number	
unnamed	SENW	21	45	98	1 gal/min	0529	
unnamed	SENW	24	45	98	1 gal/min	0535	
unnamed	SE¼SW¼	24	45	98	1 gal/min		good spring
unnamed	NE¼NE¼	29	45	98	2 gal/min	0529	good spring
Kellogg Spg	SE¼SW¼	9	45	99	2 gal/min	0637	good spring
unnamed	SWSE,SESW	25	45	99	2 gal/min	0620	
unnamed	E½NE¼	28	45	99			
unnamed	Lot 4	31	45	99	2 gal/min	0620	
unnamed	NE¼SW¼	31	45	99	2 gal/min	0620	
unnamed	S½NW¼	1	45	100	-	0606	
unnamed	SW¼NE¼	5	45	100	1 gal/min	0606	
unnamed	SW¼NE¼	6	45	100	1 gal/min	0606	
unnamed	NE¼NW¼	24	45	100	1 gal/min	0605	
unnamed	SW¼NE¼	30	45	100	3 gal/min	0605	top priority
unnamed	SW¼NW¼	8	45	100	none	0604	2 springs
unnamed	SW¼SW¼	5	45	100	none	0604	top priority
unnamed	NW¼SW¼	4	45	100	none	0604	good-2 sprgs
unnamed	Lot 11	1	45	101	1 gal/min	0604	High priority
Sanford Spg	SE¼SE¼	3	45	101	1 gal/min	0604	High priority
unnamed	Lot 8	4	45	101	1 gal/min	0515	
unnamed	S½NW¼	4	45	101	1 gal/min	0515	wallows
unnamed	SW¼SE¼	4	45	101	1 gal/min	0515	
unnamed	NE¼SW¼	9	45	101	1 gal/min	0604	
unnamed	SW¼SW¼	9	45	101	1 gal/min	0604	
unnamed	SENE,NWNE	10	45	101	5 gal/min	0604	5 spgs complex
unnamed	NWSE,SWNW	28	45	101	none	0604	
unnamed	NWNE	12	45	101		0604	
unnamed	SW¼NW¼	9	45	101	none	0604	
unnamed	SE¼SW¼	26	45	101	1 gal/min	0604	needs overflow fence
unnamed	NE¼SW¼	26	45	101	none	0604	check ownership
unnamed	NW¼	35	45	101	none	0604	
unnamed	SW¼SW¼	6	45	101	none	0604	in trespass, need to file on
unnamed	SW¼NW¼	10	46	99	none	0605	good spring
unnamed	NW¼SW¼	34	46	99	none	0637	good wildlife
unnamed	NW¼SW¼	4	46	100	1 gal/min	0599	good wildlife
unnamed	SW¼SW¼	14	46	100	1 gal/min	0599	
unnamed	NW¼SW¼	15	46	100	2 gal/min (PWR 149)	0599	
unnamed	NW¼SW¼	11	46	101	1 gal/min	0601	
unnamed	SW¼SW¼	14	46	101	1 gal/min	0600	
unnamed	NE¼NE¼	15	46	101	1 gal/min	0600	
unnamed	NE¼NE¼	34	46	101	1 gal/min	0672	2 springs
unnamed	SE¼SW¼	33	46	101	none	0515	2 springs
Iron Sprg 1	N½SW¼	4	47	100	1 gal/min	0595	good one
unnamed	NE¼NW¼	23	47	100	-	0599	
unnamed	NE¼	31	47	100		0627	
unnamed	NE¼SW¼	34	48	100		0516	game birds

APPENDIX K-1 (Continued)

Priority 2 Development

Name	Subdiv	Location Sec	Twp	Range	Adjudicated Federal Water Right	Allot. Number	
unnamed	NENW,SWSW	17	44	97	2 Springs 1 gal/min	0504	
unnamed	NW¼SW¼	3	44	99	2 gal/min	0634	wildlife only
unnamed	SE¼NE¼	4	44	99	2 gal/min	0634	wildlife only
unnamed	SESW	9	44	99	none	0634	
Eds Spring	NW¼SE¼	33	44	100	2 gal/min	0681	
unnamed	SW¼NW¼	33	44	100	none	0681	
unnamed	SE¼NW¼	26	45	100	none	0605	treater water
unnamed	NE¼SW¼	25	45	101	none	0606	trespass
unnamed	SW¼NW¼	27	45	101			
unnamed	Cntr SE¼	7	46	99	none	0605	
unnamed	NE¼NW¼	29	44	97	1 gal/min	0504	treater water

Priority 3 - Inventory and Prioritize for Development

Name	Subdiv	Location Sec	Twp	Range	Adjudicated Federal Water Right	Allot. Number	
unnamed	NE¼SW¼	5	42	101	1 gal/min	0568	
unnamed	NWNW,SWNW	1	42	101	none	0569	two springs
unnamed	SESE	19	43	95	1 gal/min	0610	
unnamed	NW¼NE¼	30	43	95	1 gal/min	0572	
unnamed		5 or 8	43	99		0633	artesian flow see Jim Brown
unnamed	SW¼SW¼	5	43	100	1 gal/min	0614	
unnamed	NE¼SE¼	21	43	102		0609	
unnamed	SW¼SW¼	22	43	102		0609	ownership
unnamed	NW¼NW¼	2	43	102	1 gal/min	0661	
unnamed		6	43	102		0525	snowbank
unnamed	SW¼SE¼	3	43	103	-	0609	
unnamed	NE¼SW¼	24	44	98	1 gal/min	0537	
unnamed	NW¼SW¼	8	44	99	1 gal/min	0634	
unnamed	NW¼SE¼	8	44	99	1 gal/min	0634	
unnamed	NE¼SE¼	33	44	99	1 gal/min	0551	
unnamed	Lot 3	31	45	99	1 gal/min	0620	
unnamed	SE¼NW¼	31	45	99	1 gal/min	0620	
unnamed	C SE¼	6	44	99	none	0634	
unnamed	NW¼SE¼	6	44	99	none	0634	
unnamed	SW¼SE¼	6	44	99	none	0634	
unnamed	NW¼SW¼	6	44	99	none	0634	
unnamed	NESWNW	8	44	99	none	0634	
Rankine Spgs	SE¼SE¼	31	44	99	1 gal/min	0620	inven for WL facility and devel spring
unnamed	S½SW¼	15	44	99	flow only, spring on state	0553	

APPENDIX K-1 (Continued)

Name	Location Subdiv	Sec	Twp	Range	Adjudicated Federal Water Right	Allot. Number	
unnamed	NE¼SE¼	5	44	99	none	0634	
unnamed	NE¼SE¼	2	44	100	1 gal/min	0634	
unnamed	Center	3	44	100	none	0634	
unnamed	SW¼NW¼	3	44	100	none	0634	lake & spring
unnamed	Lot 1	4	44	100	1 gal/min	0634	
unnamed	Lot 2	4	44	100	1 gal/min	0634	
unnamed	Lot 4		44	100	1 gal/min	0634	
unnamed	SE¼SE¼	4	44	100	none	0634	
unnamed	SW¼SE¼	5	44	100	-	0634	
unnamed	NW¼NE¼	9	44	100	1 gal/min	0633	
unnamed	NW¼SW¼	6	44	100	-	0634	
unnamed	NW¼NE¼	18	44	100	none	0532	
unnamed	NW¼SW¼	18	44	100	1 gal/min	0532	several seeps
unnamed	NE¼SE¼	23	44	100	none	0633	
unnamed	SW¼SE¼	30	44	100	none	0633	
unnamed	E½NE¼	31	44	100	1 gal/min	0633	
unnamed	SW¼NW¼	26	44	100	none	0607	
unnamed	Lot 2	1	44	101	1 gal/min	0551	
unnamed	NW¼SE¼	14	44	101	1 gal/min	0558	
unnamed	NW¼SW¼	23	44	102	1 gal/min		
unnamed	SW¼SE¼	23	44	102	1 gal/min		
unnamed	SW¼SE¼	23	44	102	1 gal/min		
unnamed	SW¼SE¼	24	44	102	1 gal/min		
unnamed	Lot 3	25	44	102	1 gal/min		
unnamed	SE, SW	25	44	102			3 springs
unnamed	SW¼SE¼	25	44	102	1 gal/min		
unnamed	SE¼SW¼	27	44	102	1 gal/min		
unnamed	SW¼SE¼	27	44	102	1 gal/min		
unnamed	SW¼NE¼	28	44	102	1 gal/min		
unnamed	SW¼NW¼	28	44	102	1 gal/min		
unnamed	SW¼NE¼	32	44	102	1 gal/min		
unnamed	NW¼NW¼	32	44	102	1 gal/min		
unnamed	SW¼SE¼	34	44	102	1 gal/min		
unnamed	NW¼SE¼	34	44	102	1 gal/min		
unnamed	NE¼NE¼	34	44	102	none		
unnamed	NW¼NE¼	34	44	102	1 gal/min		
unnamed	SW¼SW¼	24	44	102	none		
unnamed	SE¼SW¼	1	45	99	1 gal/min	0531	
unnamed	SW¼NE¼	26	45	99	2 gal/min	0633	
unnamed	SW¼SW¼	10	45	99	none	0637	
unnamed	NE¼SE¼	30	45	99	none	0633	
unnamed	SESE,SWSW	32	45	99	none	0633	
unnamed	NE¼SE¼	24	45	100	1 gal/min	0605	
unnamed	E½SE¼	35	45	100	1 gal/min	0605	
unnamed	NE¼SE¼	13	45	100	none	0605	
unnamed	NW¼SW¼	31	45	100	none	0633	ownership check
unnamed	SW¼NW¼	10	45	101	1 gal/min	0604	
unnamed	SW¼SW¼	25	45	101	1 gal/min		

APPENDIX K-1 (Continued)

Name	Location Subdiv	Sec	Twp	Range	Adjudicated Federal Water Right	Allot. Number	
unnamed	NE¼SE¼	10	45	101	none	0604	
unnamed	SE¼NE¼	34	45	101	none		
unnamed	SE¼NW¼	10	46	99	none		
unnamed	Lot 1	14	46	100	1 gal/min	0599	
unnamed	SW¼SW¼	26	46	101	1 gal/min	0672	
unnamed	Lot 6	27	46	101	1 gal/min	0672	ownership check
unnamed	SW¼SE¼	27	46	101	1 gal/min	0672	
unnamed	NW¼NE¼	34	46	101	none	0672	ck for spring
unnamed	SWSW,SWSE	30	46	101	none	0515	pond & drainage
unnamed	E½E½	25	46	102	none	0515	pond check
unnamed	E½E½	36	46	102	none	0515	Aspen springs
unnamed	NW¼NW¼	29	46	101	none	0515	drainage sprgs
unnamed	SE¼SW¼	19	46	101	none	0515	drainage sprgs
unnamed	NE¼SE¼	7	47	99	1 gal/min	0605	
unnamed	C NW	28	47	99	none	0605	
unnamed	SW¼SE¼	14	47	100	1 gal/min	0594	
unnamed	SE¼NW¼	24	47	100	1 gal/min	0594	
unnamed	NW¼SW¼	17	47	100	none	0627	
unnamed	NW¼SW¼	31	48	100	none		
unnamed	SE¼NE¼	29	48	100	none		

Priority 4 - Inventory and Prioritize for Development

Name	Location Subdiv	Sec	Twp	Range	Adjudicated Federal Water Right	Allot. Number	
unnamed	SW¼SW¼	30	43	95	1 gal/min	0610	
Anchor Spg	SW¼NE¼	3	43	100	1 gal/min	0614	
unnamed	NW¼SW¼	3	43	100	none		
unnamed	NW¼NW¼	2	43	100	none		seeps
unnamed	SW¼NW¼	13	43	101	none	0568	
unnamed	NE¼SE¼	23	43	102	none	0661	check ownership
unnamed	NW¼NW¼	3	43	103	none	0609	
unnamed	NW¼SE¼	3	43	103	none	0609	
RR Spring	NW¼NE¼	3	44	97	none		
unnamed	NW¼SE¼	11	44	98	1 gal/min	0504	
unnamed		12	44	98	1 gal/min	0504	
unnamed		13	44	98	1 gal/min	0504	
unnamed	C SW	28	44	98	none	0596	
unnamed	NW¼SW¼	14	44	98	1 gal/min	0504	
unnamed	NE¼SE¼	29	44	98	none	0596	
unnamed	SE¼NE¼	10	44	99	2 gal/min	0553	test quality
unnamed	S½NW¼	10	44	99	1 gal/min	0553	wildlife only
unnamed	NW¼SW¼	10	44	99	1 gal/min	0553	
unnamed	NW¼SW¼	10	44	100	1 gal/min	0634	
unnamed	NW¼SE¼	10	44	100	1 gal/min	0556	
unnamed	NW¼NW¼	19	44	100	1 gal/min		

APPENDIX K-1 (Continued)

		Location			Adjudicated	Allot.	
Name	Subdiv	Sec	Twp	Range	Federal Water Right	Number	
unnamed	SW¼NW¼	4	44	101	1 gal/min	0516	
unnamed	SW¼NW¼	13	44	101	1 gal/min	0558	
unnamed	NWNE,NENW	19	44	101	1 gal/min	0661	
unnamed	Lot 1	30	44	101	1 gal/min	0661	2 springs
unnamed	NW¼NW¼	34	44	101	1 gal/min	0661	
unnamed	SW¼NE¼	28	44	101	none	0661	
unnamed	SE¼NE¼	3	44	101	none	0661	creek source
unnamed	NW¼NW¼	4	44	101	none	0516	
unnamed	NE¼SW¼	13	44	101	none	0558	
unnamed	NE¼NW¼	17	45	97	none		
unnamed	SW¼NW¼	14	45	98	1 gal/min	0678?	
unnamed	SE¼NW¼	2	45	99	1 gal/min	0531	
unnamed	SW¼SE¼	28	45	99	1 gal/min	0620	
unnamed	NE¼	28	45	99	none	0620	in crk, 2 spgs
unnamed	SE¼NE¼	26	45	99	none	0529	
unnamed	SW¼NW¼	25	45	99	none	0529	
unnamed	NWNW,SENW	9	45	101	none	0604	wallows
unnamed	NE¼SE¼	17	46	98	1 gal/min	0604	
unnamed	SW¼SE¼	19	46	99	none	0604	
unnamed	NW¼SW¼	20	46	99	none	0604	
unnamed	NW¼SW¼	26	46	99	none	0637	
unnamed	NW¼NE¼	29	46	99	none	0604	
unnamed	SW¼SW¼	22	46	100	none	0604	ck ownership
unnamed	SE¼SW¼	19	46	100	none	0592	ck ownership
unnamed	NW¼SW¼	29	46	100	none		ck ownership
unnamed	SE¼SE¼	20	47	99	1 gal/min		
Iron Spgs 2	Lot 6	1	47	100	1 gal/min	0605	
unnamed	NE¼NE¼	24	47	100	1 gal/min	0564	
unnamed	SE¼SE¼	27	47	100	1 gal/min	0599	poss pvt land

APPENDIX K-2

Water Well Development Prioritization

Absaroka Front HMP

First Priority

Well Name	Allot. No.	Legal Description Subdiv.	Sec.	Tp.	Rg.	Yield gal/min	Water Depth	Comments
Sager Govt #2	0678	NWSE	1	45	98	14	60'	Total renovation
Sanford #3	0535	NWSW	19	45	97	20	170'	Cost of power, nongrazing season-summer
Lake Well	0596	NENW	28	44	98	6	252	
Sanford #5	0535	NWSW	19	45	97	18	80	Cost of power, nongrazing season-summer
Ile Well	0604	SENW	1	45	97	-	-	Fully Developed
Horse Well	0534-5	SESW	3	45	97	-	-	Pump-Pipeline, tanks
Sanford #4	0535	SESW	13	45	98	18	85'	Cost of power, nongrazing - summer
Brown	0531	NWSW	1	45	99	100	17'	Storage tank, pump, pipelines, tanks, fence
Spring Gulch	0531	NWSW	17	45	99	-	70'	Storage tank, pump, pipelines, tanks, fence
Kellogg	0637	SWNW	17	45	99	12	360'	Pump, tank, storage, pipeline, fence
Rankins	0620	NENW	28	45	99	40	-	Pump, storage, tanks, fence
Hogback	0523	NWNW	10	45	98	25	140'	pump, stprage tank, fence
Rankins Bros.	0621	NWNW	15	46	98	-	330'	storage tank, pump, fence
Ile Deep	0621	NWNE	15	46	98	14	-	storage, pump, tank, pipeline, fence
Four Corners	0531	SWSW	18	46	98	30	-	pump, storage, tanks, pipeline
L U Lower	0605	NWNW	15	47	99	21	200'	pump, storage, tank, pipeline, fence
Clifton Remmer	0627	SWSW	7	47	100	5	-	pump, storage, tank, pipeline, fence
Brown Artesian	0533		5	45	99		artesian	fence - verify flow

APPENDIX K-2

Second Priority

Well Name	Allot. No.	Legal Description Subdiv.	Sec.	Tp.	Rg.	Yield gal/min	Water Depth	Comments
Lil' Buffalo Ben	0564	SENESW	18	47	99	609	1752'	storage, tanks, pump, purchased by Gould in 1975

Inventory and Prioritize

Well Name	Allot. No.	Legal Description Subdiv.	Sec.	Tp.	Rg.	Yield gal/min	Water Depth	Comments
no name	0504	NESE	23	44	97	-	-	verify flow, develop
Luke McNail	0573	SENE or SESE	35	45	98	-	73	verify flow, location
no name	0646	SESW	25	44	97	-		verify flow, development needs
no name	0535	NESW	23	45	97	-	-	verify flow and development needs
Hager Gov. #1	0678	SENW	1	45	98	14	-	verify potential for pipeline
no name	0605	NWNW	21	47	99	-	-	verify flow and development needs
no name	2510		34	48	100	-	-	verify flow and development potential

APPENDIX L

BLM FOREST MANAGEMENT/WILDLIFE CHECKLIST

AND

GUIDELINES SYNOPSIS

APPENDIX L

BLM Forest Management/Wildlife Checklist and Guideline Synopsis

Purpose	Guideline Actions
1. Provide and maintain number, size, age class, distribution and type of snags appropriate to sustain viable populations of snag related wildlife species for a period of 30 years after harvest action. Refer to Wildlife Habitat in Managed Forests, the Blue Mountains of Oregon and Washington for reference as to snag class, types and wildlife species	1. Through analysis of wildlife species and specific snag requirements for different forest types, a snag management prescription for each harvest action will be completed. Minimum per 5 acres of 3 hard snags (10"+DBH), 3 dead top developing snags (10"+DBH), and all soft snags unless they consticonstitute an unacceptable safety or fire hazard. These requirements will provide for a 30 years snag use cycle through initial forest succession phases. Broken top snags are preferred and their locations should be away from high intensity fuelwood gathering areas, and they should be marked as snags to prevent cutting.
2. Manage dead and down woody material to provide for maximum wildlife habitat diversity. Maintain a range of size, type, age, distribution and density of down wood material. Refer to Wildlife Habitat in Managed Forests, the Blue Mountains of Oregon and Washington for reference as to log slash and down material classes.	2a. Retain a minimum of Class I logs (12"+ Diameter and 20' long) per 2 acres and all Class 3, 4, 5 logs, which have little commercial value and are acceptable in terms of fuel loading, should be retained.
	2b. Retain woody debris on 10% of clearcut area and on a minimum of 25% of a treated area, leave slash untreated. Do not allow continuous slash concentration over 6 inches above the soil to avoid forced trailing or restricting grazing animal travel. Seventy-five percent of treated areas that are grazed should have slash reduced to 8" in depth.
	2c. Avoid restricting animal access to water.
	2d. Analyze the need for removal of woody material from stream channels. Massive material accumulations can cause bank and channel erosion, inhibit normal fish movement, and instability causing temporary dams whose failure can cause severe damage to terrestrial and stream habitats.

2e. Retain natural stable logs in stream channels and manage unstable logs to minimize bank damage.

2f. Retain buffer strips and utilize directional falling or cable assist felling and yarding away from streams to avoid accumulation of debris in streams. Establish yarding areas outside of stream zones.

3. Maintain optimum cover/forage area ratios horizontal and vertical diversity to meet the needs of wildlife species within each habitat analysis block.

3a. Maintain seasonal cover/forage area ratios as follows:

Season	Ratio	Purpose/Value Rating		
		Thermal	Security	Escape
Spring	40/60%	M-L	L-except calving areas	L
Summer	50/50%	H	M-depend on activity	H
Fall	75/25%	M	H	M
Winter	25/75%*	H	M	L

L - Low; M - Moderate; H - High

*Note: Winter range ratios are below this level at present. The maintenance of disturbance-free winter ranges is necessary if use of the open winter habitats in the MMP area is to continue. Elk are the primary species of concern in terms of these ratios. All ratios and purpose/value ratings are dependent upon man induced disturbance in seasonal habitats As disturbance increases value ratings increase as well.

3b. Maintain at least 5 forest structural stages to maintain vertical and horizontal diversity in any habitat analysis block.

4. Implement special actions to maintain special habitat features or areas from impacts of roads and harvest action. This includes size,

4a. Buffer non-stream riparian areas, wallows, wet meadows, high contrast edges, natural openings and unique features by a minimum of 2 sight distances shape and distribution of harvest to maintain vertical and horizontal diversity.

or a maximum of 100 meters. Allow no more than 50% basal area removal within 100 feet of either side of a perennial stream (measured from high water mark or outer edge of riparian zone) in any 20 year period. Three site distances* should be maintained along permanent roads.

A sight distance is the distance at which 90% or more of an animal is hidden from an observer. This guideline is not applicable in cases of fire, natural crisis. Exception for visual resource and wildlife management purposes are allowed.

4b. Induced openings should be bounded by forest cover (growth at least 20 years old, no less than 300 stems/acre over 12' tall) no less than 2 sight distances for maximum of 300 feet, except in the case of fire or other natural crisis.

4c. Maximum clearcut size is 40 acres. Where reproduction involves no serotinous cones, widths should not exceed 5 tree heights. Cuts should have no point within more than a maximum of 600 feet from cover.

4d. Group selection harvest induced openings should not exceed .5-1 acre to meet vertical diversity objectives. Harvest should not discriminate against any tree species to the point of exclusion where now present.

4e. Planting of herbaceous vegetation on disturbed areas (skid trails, road, decks) will take place immediately following harvest and again 3-4 years after harvest on general harvest area after regeneration becoms established. This sequence provides for timber regeneration and interim watershed protection and wildlife habitat improvement. Protection of cutover areas from livestock use, through fencing or deferment, should occur for 5 years to ensure reforestation and establishment of understory vegetation. Enhance aspen communities through timber practices where practical.

4f. Provide seasonal protection of calving and breeding areas where timber/open area relationships and disturbance is minimal. Calving areas require 5/1-6/30 closure period and breeding (elk) 9/1-10/10 period. Allow logging from 6/30 to 9/1.

4h. Alternate secondery drainages between activity or treatment areas should remain undisturbed until cover value is reestablished (20 years) on treatment areas. Security areas should be a minimum of 1,000 acres.

4i. In each habitat analysis block, maintain a minimum of 5% old growth timber scattered throughout timbered portions in 20 acres or larger size blocks . Priority of location should be in spruce/fir habitat types, riparian types and moist drainage heads. This percentage may be increased depending on wildlife objectives. Old age timber meets the following criteria: 1) 15 stems or more per acre in 10"+ DBH (lodgepole) or 20"+ DBH on other species; 2) much dead and rotting wood; 3) high degree of decadence; 4) two or more canopy levels totalling over 70% crown closure; and 5) having 1-2 snags/acre over 12" DBH.

4j. Management for horizontal diversity, accompanied by even age management, should occur on 30-80% of timbered areas. 30-80% of timbered areas should be managed for horizontal diversity accompanied by even-age management.

4k. Protect a zone 100 meters from any active raptor nest from 4/1-7/31.

4l. Maintain cover stringers (minimum of 200' wide) along travel routes and upper 1/3 of ridges where blue grouse winter on Douglas fir needles.

4m. Enhance aspen communities through timber practices where practical.

5. Coordinate wildlife needs with timing, duration, location and distribution of all timber activities.

5a. Complete logging activities in shortest possible time period to avoid critical life phase periods as follows:

calving 5/1-6/30 elk, deer, moose
breeding 9/10-10/10 elk
winter 11/1-5/1 all species

5b. Locate timber activities, both regulated and non-regulated, so adjacent security areas are available. A security area must provide a timbered area free of man's activities located 1/2 mile from a major activity and separated by at least one secondary ridge.

6. Locate, design, construct and manage roads and trails to allow free movement of wildlife, limit harassment from vehicles and people, minimize disturbance to effective wildlife habitats.

6a. Use the lowest possible road standards and minimize lengths necessary to meet objectives. Big game winter habitats, calving and breeding areas are particularly impacted by road associated activities.

6b. Allow no more than 2 miles of road per square mile using greatest concentration of roads as a focal point will be allowed. Specific guidelines by percent hiding cover (40% or more crown canopy) are as follows:

% Hiding Cover	Open Road Density
80	0-2.4 mi/mi^2
70	0-1.9 mi/mi^2
60	0-1.2 mi/mi^2
50	0-0.1 mi/mi^2

6c. Close all roads where access is not necessary to reduce impacts to wildlife following timber harvest and maintain road foundations or structure needed for long term forest management to minimize periodic construction disturbance. Sign all roads as to type, period and reason for restrictions. New roads to be closed will be signed indicating reason for closure. Formal closure is necessary from 11/1-5/1 in wintering ranges and 5/1-6/30 in calving/fawning/nursery areas.

6d. Design road crossings to maximize cover where natural or known wildlife travel routes occur.

	6e. Avoid single road tangents of more than 1/4 mile in forested area.
7. Locate roads and trails outside of wetland riparian habitats, alpine, habitats, and unique areas unless all other alternatives have been rejected due to being more environmentally damaging, prohibitively costly, or not in best public interest.	7a. When riparian location is necessary: 1) roads and facilities should not parallel streams. 2) crossings will be at right angles and constructed to minimize clearing and ground clearance.
8. Design and construct road crossing to allow fish passage and to minimize alteration of natural physical stream characteristics.	8a. Preservation of the natural stream bottom and banks (a bridge or a pipe arch) is required on all streams with a high fishery value. This includes all Class I or II streams as classified by the Wyoming Game and Fish Department.
	8b. Preservation of the natural stream bottom and banks (bridge); or preservation of the natural stream bottom (bridge or pipe arch); or simulated stream bottom (pipe arch or culvert) is required on Class III streams.
	8c. Any of the above (1&2) or elimination of natural stream characteristics (culverts) are acceptable on Class IV or V streams as long as migrating fish can pass through the crossing.
	8d. Fords (no structure) will be acceptable only under conditions which will not cause a visible change in physical stream characteristics. These conditions are: 1) bedrock stream bottom and lower banks, or 2) rubble and/or gravel stream bottom and lower banks and; 3) weight and numbers of vehicle anticipated will not cause visible displacement of rubble or gravel, increase suspended sediments, or cause sedimentation of spawning gravels.

APPENDIX N

N-1 LIVESTOCK GRAZING ALLOTMENT CATEGORIZATION (BLM ADMINISTERED LANDS ONLY)

N-2 "I" CATEGORY ALLOTMENT MANAGEMENT PLAN (AMP) SCHEDULE

N-3 RANGE/WILDLIFE MANAGEMENT GUIDELINES AND CHECKLIST OF STANDARDS

APPENDIX M-1

Livestock Grazing Allotment Categorization (BLM Administered Lands Only)

"I" Category Allotments

Allot Number	Allotment Name	Federal Acres	State Acres	Private Acres	Total Acres
0516	Blue Creek	1.990	0	2,837	4,726
0524	Cottonwood	1,098	640	694	2,432
0525	Rock Creek	1,600	640	2,200	4,440
0529	Prospect Common	9,263	1,450	2,166	12,879
0531	Spring Gulch	1,760	0	0	1,760
0537	Padlock	1,707	2,572	0	4,279
0541	Three Peaks	520	0	640	1,200
0542	Rock Creek	1,960	0	1,320	3,280
0545*	Grass Point	4,372	60	2,138	6,570
0556	Twenty-one Creek	1,945	0	499	2,444
0558	Buck Creek	545	0	640	1,185
0560	Owl Creek	920	640	0	1,560
0568	Basin	7,816	1,188	6,865	15,869
0573	Wagonhound	3,395	480	1,280	5,155
0575	Owl Creek	1,667	0	1,262	3,929
0596	Wagonhound	7,811	640	2,880	11,331
0605,2526*	Buffalo Basin	28,139	3,880	6,893	38,912
0606	Upper Range	29,895	11,076	11,440	52,411
0607	Lake Creek	3,704	0	2,961	6,368
0609	Owl Creek	2,125	0	2,480	4,605
0614	Rattlesnake	860	0	827	1,687
0615	Lime Ridge	920	0	1,480	2,400
0620	Prospect	4,940	1,200	970	7,110
0621	No. Grass Creek	2,360	360	240	2,940
0627	Gooseberry	2,771	780	2,211	5,762
0633	Upper Pastures	4,701	640	896	6,317
0634	Lower Pastures	9,772	720	896	11,388
0637	Grass Creek	3,760	0	3,360	7,120
0642,2539	Red Canyon	6,555	0	4,732	11,287
0678	So. Grass Creek	9,187	1,280	3,066	13,533
0681	Spring Creek	1,506	560	1,900	3,966

*Portion of these allotments lie outside the MFP area.

"C" Category Allotments

Allot Number	Allotment Name	Federal Acres	State Acres	Private Acres	Total Acres
0504	Hamilton Dome	11,904	640	290	12,834
0533	Home Ranch	920	0	260	1,180
0561*	Freudenthal Individual	1,880	621	2,672	5,173
0580	Coal	480	555	0	1,035
0583	Owl Creek	160	0	180	340
0597	Owl Creek	1,360	640	2,433	4,433
0608	Vass	713	0	618	1,331
0610	South Owl Creek	840	0	240	1,080
0636	Haynes	465	0	286	751
0648	Individual	320	0	440	760
0654	Ayer's Individual	560	0	0	560

*Portions of this allotment lie outside the HMP area.

APPENDIX H-2

"I" CATEGORY ALLOTMENT MANAGEMENT PLAN SCHEDULE

"I" Category Allotments Management Plan Schedule

Allotment Number	Allotment Name	Acres of Public Land	Existing AMP	Programmed** AMP Revision	Programmed** New AMP
0518	Cottonwood	1,135	Yes	-	1984
0524	Cottonwood	1,098	No	-	1986
0525	Rock Creek	1,600	No	-	1988
0529	Prospect Common	9,263	No	-	*
0531	Spring Gulch	1,760	No	-	*
0537	Padlock	1,707	No	-	*
0541	Three Peaks	560	No	-	*
0542	Rock Creek	1,960	No	-	1988
0545	Grass Point	1,120	No	-	1986
0556	Twenty-One Creek	1,945	No	-	*
0558	Duck Creek	545	No	-	*
0560	So. Frk-No. Frk	920	No	-	*
0568	Basin	7,816	No	-	*
0573	Wagonhound	3,395	No	-	*
0575	Owl Creek	1,667	No	-	*
0596	Wagonhound	7,811	Yes	-	-
0605	Buffalo Basin	27,092	No	-	*
0606	Upper Range	29,895	No	-	*
0607	Lake Creek	3,704	No	-	*
0609	Owl Creek	2,125	No	-	*
0614	Rattlesnake	860	No	-	*
0615	Lime Ridge	920	No	-	*
0620	Prospect	4,940	No	-	*
0621	No Grass Creek	2,360	No	-	*
0627	Gooseberry	2,771	No	-	*
0633	Upper Pastures	4,701	Yes	1985-6	-
0634	Lower Pastures	9,772	Yes	1985-6	-
0637	Grass Creek	3,760	No	-	1985
0642	Red Canyon	6,555	Yes	1986	-
0678	So Grass Creek	9,187	Yes	1985-7	-
0681	Spring Creek	1,506	No	-	*
2510	Gould Individual	2,205	No	-	*
2526	Buffalo Basin Sec 15		No	-	*
2539	Sanford Sec. 15		No	-	1986

* To be scheduled 1989-1995

**This schedule is subject to revision based on progress, new prioritization, conflicts or significant changes in land use.

APPENDIX M-3

Range/Wildlife Management Guidelines and Checklist of Standards

1. Fence standards, types, placement, removal or modification will allow for free passage of game animals.	1a. In each fencing situation, consideration will need to be given to wildlife species using the area, livestock classes and special features (i.e., crossings). Fences should generally not exceed 38" in height, maintain 10-12" between the top two wires, and have a bottom wire not less than 16" above the ground in antelope ranges where domestic sheep do not occur. Draft Manual 1737 provides excellent guidance.
	1b. Top rails are needed in elk areas.
2. Riparian/Wetland maintenance	2. Refer to Grass Creek Reservoir and Stream HMPs.
3. Optimize range condition, available-forage availability and management of wildlife in key areas. Include proper actual use and distribution to minimize crucial habitat conflicts and optimize habitat availability.	3a. Monitor forage utilization, ability, range condition, and trend on key wildlife areas to maintain light (5-20% utilization on competitive forage species).
	3b. Do not develop new waters on areas adjacent to crucial elk winter range unless forage is made available on adjacent areas. Analysis of cover, forage and space needs for wildlife must be considered before projects cause major changes in current habitat use.
4. Season of use and class of livestock will be selected to minimize habitat use conflicts and optimize available habitat. Protection of fragile alpine habitat and watershed will be required.	4a. Do not allocate forage over 10,000 feet elevation.
	4b. Defer livestock turnout on elk spring range, elk and moose calving areas, and antelope and deer fawning area until July 1. July 15 should be the deferment date in high elevation areas over 7500' elevation.
	4c. Defer livestock turnout to July 1 in blue grouse nesting and brood areas and June 15 on sage grouse breeding/nesting complexes.
	4d. Rest or defer livestock use on elk breeding areas from 9/10-10/10.

	4e. Ensure annual rest pastures for each allotment on elk winter ranges and important big game use areas, when devising grazing systems.
	4f. On crucial big game (especially elk and bighorn sheep) winter range sites, allow limited utilization of forage by livestock prior to winter season. Suggest 25% on grass and forb and 15% on shrubs and trees.
	4g. Allocate forage or document the forage provision for wildlife in grazing allotment management decisions.
	4h. Do not encourage spring domestic sheep use in known sage grouse breeding/nesting habitats.
5. Develop and maintain watering sites and associated riparian vegetation to maximize wildlife use.	5a. Develop new or additional water in potential wildlife habitat currently unoccupied due to lack of water.
	5b. In livestock water development, address sunken water troughs, overflow areas, bird ladders, drip pipes, offsite troughs (reservoirs), storage tanks, fencing, cover avenues, riparian protection developments, planting, and yearlong wildlife water.
	5c. Modify existing livestock waters to meet wildlife habitat needs and provide yearlong and/or critical season water.
	5d. Do not develop livestock waters on crucial elk or bighorn sheep winter ranges unless provision is made for providing like forage quality, quantity, and availability on immediately adjacent areas.
	5e. Do not develop livestock waters if source water flows are not sufficient to provide for livestock water and still retain sufficient amount of water to maintain wetland vegetation associated with a given spring or seep. Do not dry up a spring area. If areas do not

produce sufficient water for livestock and maintenance of riparian vegetation, protect area by fencing and do not develop.

5f. Protect riparian zones associated with springs, seeps, overflows, and develop new wetlands on well water and other water developments where practical.

6. Initiate livestock salting strategies to minimize riparian and crucial habitat conflicts.

6a. Salting of sheep should be done on the bed grounds before the sheep arrive, and portable troughs and rock outcrops should be used to supply salt in a different place each day.

6b. For cattle and horses the following guidelines apply:

1) The first salting should be done before the stock are turned onto the public lands.

2) When the opportunity exists, salt at least 400 yard from open water.

3) Salt away from passes or other natural travel routes.

4) Salt in the midst of forage areas where cattle do not naturally feed.

5) Salt on rocky knolls or in scrub timber where trampling will not destroy plant growth.

6) Salt on reasonably level ground.

7) Do not salt on small areas producing palatable feed.

8) Do not place more salt on given areas than is needed by the stock.

9) Remove salt promptly when further grazing of an area is no longer desirable.

10) Eliminate livestock salting in newly cutover timber and aspen areas for 4 years and vegetation conversion areas

	for 2 years, or as long as necessary to ensure regeneration and establishment of desired species.
7. Provide detailed wildlife and habitat protection criteria for all range related vegetation conversion projects.	7a. See MFP Multiple Use Decision WL-5.12 and attached addendum, WL-5.14 and WL-15.
8. Monitor all projects and management actions to ensure attainment of wildlife and livestock objectives.	8a. Evaluate seasonal actual use, utilization, distribution changes, and habitat conditions to determine effects of individual actions and the combined effects of all man's activities on wildlife habitat and its use.
	8b. Fencing or debris barriers on access roads may be necessary in mineral activity or timber harvest areas utilized by livestock. Timber areas are not considered as grazing lands and forage adjudication were not made on these acreages.

APPENDIX N

MINERALS MANAGEMENT/WILDLIFE HABITAT

GUIDELINES AND CHECKLIST OF CONCERNS

Appendix H

Minerals/Wildlife Habitat Guidelines and Checklist of Concerns

1. Minimize human activity, access and disturbance of important seasonal habitats and/or habitats occupied during severe climatic conditions.	1. Oil and gas lease stipulations include no occupancy on priority crucial elk and bighorn sheep winter ranges, parturition areas, and core areas of sage grouse strutting grounds.
	2. Allow activity on new oil and gas leases between 6/16 and 2/28 within a one mile zone of strutting grounds in low elevations and 7/1-2/28 in higher elevations.
	3. Allow activity between 5/1-10/31 on new leases on general elk winter ranges and crucial deer and antelope winter ranges.
	4. Utilize seasonal road closures, authorized use only access, directional drilling, seasonal pumping, in kind offsite habitat mitigation, and seasonal maintenance in field development plans as well as on lease exploratory activities where legally practical to minimize impacts to and/or buffer important habitats.
	5. Apply 1-4 above to seismograph exploration activities as practical.
	6. Restore dry hole sites, pipelines, powerlines and roads to contour and protect rehabilitated areas from livestock until vegetation becomes established or for a minimum of two growing seasons whichever proves sufficient.
	7. Restore any special cover, water or forage conditions that were existing before the disturbance and that will improve the site disruption caused by minerals activity.
	8. Do not exceed maximum road densities on important habitats. The following criteria apply:

80% canopy cover	0.0-2.4 mi/mi^2
70% canopy cover	0.0-1.9 mi/mi^2
50% canopy cover	0.0-1.2 mi/mi^2
30% canopy cover	0.0-0.1 mi/mi^2

9. Eliminate activity on fawning/calving habitats from 5/1-7/1 and on elk breeding areas 9/1-10/10.

10. Require flight corridors for helicopter activities.

11. Where significant energy impacts are probable, require offsite, in kind, habitat mitigation and wildlife habitat use monitoring.

12. Control vehicle and human activity periods and areas. For example, require on site living quarters and two day a week vehicle access.

APPENDIX O

VEH CLASS

OBJECTIVES

APPENDIX O

VRM MANAGEMENT CLASS OBJECTIVES

A. Class I Objective. The objective of this class is to preserve the existing character of the landscape. Only Congressionally authorized areas or areas approved through the MFP/RMP process where the goal is to provide a landscape setting that appears unaltered by man, should be placed in this class. The level of change to the characteristic landscape should be extremely low because only very limited development such as hiking trails should occur in these areas.

B. Class II Objective. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape.

C. Class III Objective. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

D. Class IV Objective. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

APPENDIX P

COOPERATIVE AGREEMENT

BETWEEN

THE STATE OF WYOMING

BY AND THROUGH THE GOVERNOR,

AND

THE DIRECTOR

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

AND

THE UNITED STATES

BY AND THROUGH THE STATE DIRECTOR,

BUREAU OF LAND MANAGEMENT, WYOMING

U. S. DEPARTMENT OF THE INTERIOR

FOR

208 WATER QUALITY PROGRAM COORDINATION

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COOPERATIVE AGREEMENT
BETWEEN
THE STATE OF WYOMING
BY AND THROUGH THE DIRECTOR,
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AND
THE UNITED STATES
BY AND THROUGH THE STATE DIRECTOR,
BUREAU OF LAND MANAGEMENT, WYOMING
U.S. DEPARTMENT OF THE INTERIOR
FOR
208 WATER QUALITY
PROGRAM COORDINATION

I. Purpose

This cooperative agreement is entered into between the State of Wyoming, by and through the Governor and the Director, Wyoming Department of Environmental Quality (hereinafter referred to as DEQ), and the United States, by and through the State Director, Wyoming, Bureau of Land Management, U.S. Department of the Interior (hereinafter referred to as BLM), for the purpose of identifying responsibilities, activities and policies of each agency and establishing coordinative and cooperative working relationships between the agencies concerning 208 water quality planning, management and implementation of the Wyoming Water Quality Management Program on the public lands and resources administered by BLM. This agreement also serves to further implement the National Environmental Protection Agency (EPA)/BLM Cooperative Agreement of January 5, 1976 which provides the basis for expanded cooperation between BLM, EPA and the State(s) pursuant to Section 208 of the Federal Water Pollution Control Act Amendment of 1972.

II. Authority

This agreement is entered into under the following authorities:

1. Federal Water Pollution Control Act, as amended (PL 92-500, 86 Stat. 816, 33 USC 466).
2. Public Lands Administration Act (PL 86-649, 74 Stat. 506, 43 USC 1361).
3. Intergovernmental Personnel Act (PL 91-648, 82 Stat. 1590, 5 USC 3371).
4. Executive Orders 11752 and 12088.
5. Water Quality Management Planning Regulations (40 CFR Parts 130 and 131).
6. Wyoming Statutes:

    35-11-102
    35-11-109
    11-16-105
    36-2-108

7. Other State and Federal environmental and public land use laws, executive orders, and agreements as may apply.

III. Objectives

The intent of this cooperative agreement is to establish basic DEQ and BLM roles and to provide a basis for developing a continuing process to meet mutual requirements and needs for coordinating 208 planning and implementation involving BLM administered public lands and resources in Wyoming.

DEQ and BLM agree to the following provisions and objectives directed toward promoting coordination and cooperation, avoiding duplication of effort and attaining optimal public benefits in achieving State and Federal water quality goals and standards.

A. DEQ Role

DEQ will exercise its statutory authority as the lead State agency responsible for the overall direction, review, approval and coordination of all local, State and Federal water quality management programs, including planning, implementation and enforcement activities for both point and non-point sources of pollution within the State of Wyoming. This will include review of appropriate BLM planning and implementation activities; overseeing certification of BLM developed water quality plans, programs and proposed Best Management Practices (BMP's) for application on BLM administered public lands within the State. DEQ will cooperate with BLM in the development of such additional BMP's for specific applications as may be necessary.

B. BLM Role

BLM, as the designated water quality management agency for public lands and associated resources under its jurisdiction, will exercise its statutory authority for planning, implementation, and enforcement on the public lands as they relate to the protection and enhancement of water quality. This will include submission of BLM developed water quality management plans and/or plan elements to be considered for inclusion by the State into the Statewide 208 Plan, and cooperation with the State in the development of BMP's for specific application on the public lands when necessary.

IV. Planning and Implementation Process

A. DEQ will biannually identify stream segments where water quality is significantly impaired or a high potential exists for significant impairment due to present and/or anticipated activities affecting runoff from lands managed and under the jurisdiction of BLM. The criteria for determining impacted streams will be in compliance with Wyoming water quality standards and impairment of recognized uses. The assessment will include a description of existing and potential problems, including an identification of the types and degree of pollution and the sources of pollutants contributing to the problem. The assessment will, to the degree possible, identify surrounding land areas and activities that contribute or may contribute to the problem.

B. The assessment shall include an evaluation of the severity of each problem and a ranking to establish priority for addressing the problems.

C. The development of this assessment will include an open public participation process to be conducted by DEQ in accordance with the process described in the certified and approved Statewide 208 Water Quality Management Plan.

D. DEQ and BLM will jointly investigate and evaluate alternatives and procedures for obtaining necessary funding and manpower resource allocations to address the priority problems within scheduled time frames. In addition to BLM and DEQ funding, other local, State and Federal sources will be considered. Potential funding sources to be considered include, but are not limited to:

1. Planning grants under Section 208 of the Clean Water Act (CWA).
2. Federal appropriations under Section 304 of the CWA.
3. Federal appropriations in response to requirements of Section 313 of CWA.
4. Federal appropriations under Section 314 of the CWA.

E. DEQ and BLM will utilize the priorities, schedules, problems and necessary corrective actions identified through this process in the development of their respective program plans and budgets.

F. DEQ and BLM will initiate appropriate planning and implementation measures within the limitations of statutory authority and available resources.

It is further mutually understood that in the absence of specific additional resources, the activities of BLM are contained entirely within the context of activities justifiable under BLM policies, legislative authorities and responsibilities. These include, but are not limited to exercise of management and administrative authorities in connection with the management of public lands and associated resources either directly or by authorization or regulation of others.

Such activities may involve both point and nonpoint source water pollution consideration and may be inclusive of, parallel, or additional to State activities. Such BLM activities do not abrogate or replace State authority and vice versa.

G. Prior to the annual meeting, BLM will provide an annual report to DEQ and the State of Wyoming which will outline efforts to address and mitigate identified water quality problems. The report will include the following:

1. Description of specific control programs planned and implemented;
2. Staff and financial resources committed and expended to carry out the program;
3. An assessment of the impact of the program relative to water quality objectives of BLM and DEQ;
4. A schedule of milestones for implementation and maintenance of control program;
5. Water quality and assessment data relative to lands under BLM jurisdiction;
6. Coordinated needs and responsibilities of 208 planning and management agencies for activities related to activities on BLM administered areas;
7. Description of public involvement.

V. Management Agency Designation and Acceptance

Subject to the signing of this cooperative agreement and the provisions herein, the Governor, under the provisions of § 208(a)(2) of the Clean Water Act designates BLM as the areawide waste treatment management agency for those BLM administered public lands and resources in Wyoming.

By signature of the State Director, BLM accepts the designation subject to the provisions of this agreement and limitations of BLM jurisdiction and legislative authority. In addition, BLM will incorporate full consideration of appropriate water quality management objectives, practices, and requirements, including those set forth in approved 208 plans, into all activities provided for in Bureau Management Framework Plans (MFP), Resource Management Plans (RMP) and amendments thereto, and will ensure that such plans and activities are in full compliance with applicable local, State and interstate, and federal requirements concerning the abatement, control or prevention of water pollution as required by § 313 of the Clean Water Act.

VI. Administrative Provisions

A. Implementation and Termination

This cooperative agreement and any subsequent supplements, guides or procedures attached shall become effective when approved and signed by DEQ and BLM and shall remain in force unless formally terminated by (1) mutual written agreement or (2) either agency, upon ninety days written notice to the other of its intention to do so.

B. Amendments and Renegotiation

Renegotiation or amendment of this agreement and any attached subagreements, supplements, guides, or procedures may be proposed by either agency. Renegotiated portions of the agreement and amendments shall become effective upon the written approval of both the State and BLM.

C. Supplemental Agreements at Local Levels

BLM district managers are authorized to enter into cooperative agreements with local agencies or governments (at comparable administrative level) where needed for local 208 water quality planning and implementation coordination. DEQ and BLM will cooperate and assist in the development of local 208 agreements if and as needed. Any such local agreements shall be in accord with and supplemental to this cooperative agreement and shall require approval of the State Director of BLM and the Director of DEQ prior to signing.

D. Annual Meeting and Agreement Review

1. DEQ and BLM shall meet annually, prior to June 1, to evaluate the 208 program effectiveness and to establish or adjust goals and priorities. This meeting will include reviewing and developing a joint report concerning the following matters:

   a. Available DEQ and BLM monitoring information to determine if program goals are being met and prescriptions for integrated procedures for more effective program implementation;

   b. The BLM annual report on 208 planning and implementation activities;

   c. Funding and manpower constraints affecting more immediate and effective program needs.

   This annual meeting may also serve as a further decision or coordination session to determine programming of coinciding allocations in the respective work plans and budgets of both agencies.

2. DEQ and BLM will meet as necessary to review and evaluate conditions and trends concerning the intent and functioning of this cooperative agreement. It is expected this will occur at least annually, until the statewide coordination process and 208 program are adequately established and functioning. Thereafter, a joint review and evaluation of this agreement will be conducted at no longer than five year intervals.

E. Other Coordination Aspects

1. All DEQ and BLM activities in carrying out the provisions of this cooperative agreement shall be done with full consideration for:

    a. All DEQ and BLM resource programs that may be involved;

    b. Multiple use and sustained yield of natural resources in the context of environmental integrity, protection and enhancement;

    c. Consistency with State, local and Federal land use plans and/or zoning ordinances.

2. Any dispute shall be resolved as set forth in 40 CFR Part 35.1531-3.

F. Legal Restrictions and Disclaimers

1. Nothing in this cooperative agreement, or subagreement thereunder shall abrogate in any way the respective authorities of the the United States or the State of Wyoming, or supersede or abrogate the terms of agreements in force on the date of signature of this agreement, unless specifically so stated.

2. Each provision of this cooperative agreement is subject to the laws, rules and regulations of the State of Wyoming and the United States, and to appropriate DEQ and BLM delegation of authority.

3. All provisions in this cooperative agreement must be conducted within financial, legal and personnel limitations, as determined practical by the Director of DEQ and the State Director of BLM, for their respective responsibilities. Nothing herein shall be construed as limiting or affecting in any way the authority or legal responsibility of the Director of DEQ or the State Director of BLM, or as binding either party or either agency to perform beyond their respective authority, or to require either

party or either agency to assume or expend any funds in excess of appropriations available and authorized by law.

4. Nothing in this cooperative agreement shall be construed to alter the legal rights and remedies which the State of Wyoming and the United States would otherwise have.

VII. Signators

The below signators hereby agree upon and cause this document to be executed:

STATE OF WYOMING

By: ______________________ 3/11/81
Governor, State of Wyoming — Date

By: Robert E. Sundin 3/13/81
Director, Department of Environmental Quality — Date

UNITED STATES

By: ______________________ 3/13/8
State Director, Bureau of Land Management, Wyoming — Date

APPENDIX Q

FIRE MANAGEMENT/WILDLIFE HABITAT GUIDELINES

APPENDIX Q

FIRE MANAGEMENT/WILDLIFE HABITAT GUIDELINES

1. Maximum protection for crucial habitat areas.	1. Initiate attack and suppression of wildfire upon detection in HAB where cover is limiting (i.e., timber cover is less than 25%) and a. Timber stands are less than 10 acres b. Timber stands are isolated from other stands by a distance of 1/4 mile. 2. Initiate attack and suppression of all fires in alpine zones after reaching 1 acre in size and fires in or threatening determinate aspen stands and riparian areas. 3. All other area control is spelled out in the Fire Management Plan for the GCRA.
2. Utilize controlled vegetation conversion for habitat enhancement.	1. Analyze timing, magnitude and scope of treatments to correspond to ecosystem or plant community fire guidelines. 2. Rehabilitate severe wildfire burn areas with species that enhance wildlife cover and forage. 3. Refer to Appendix K Range Management on parameters for vegetation treatments.

APPENDIX E

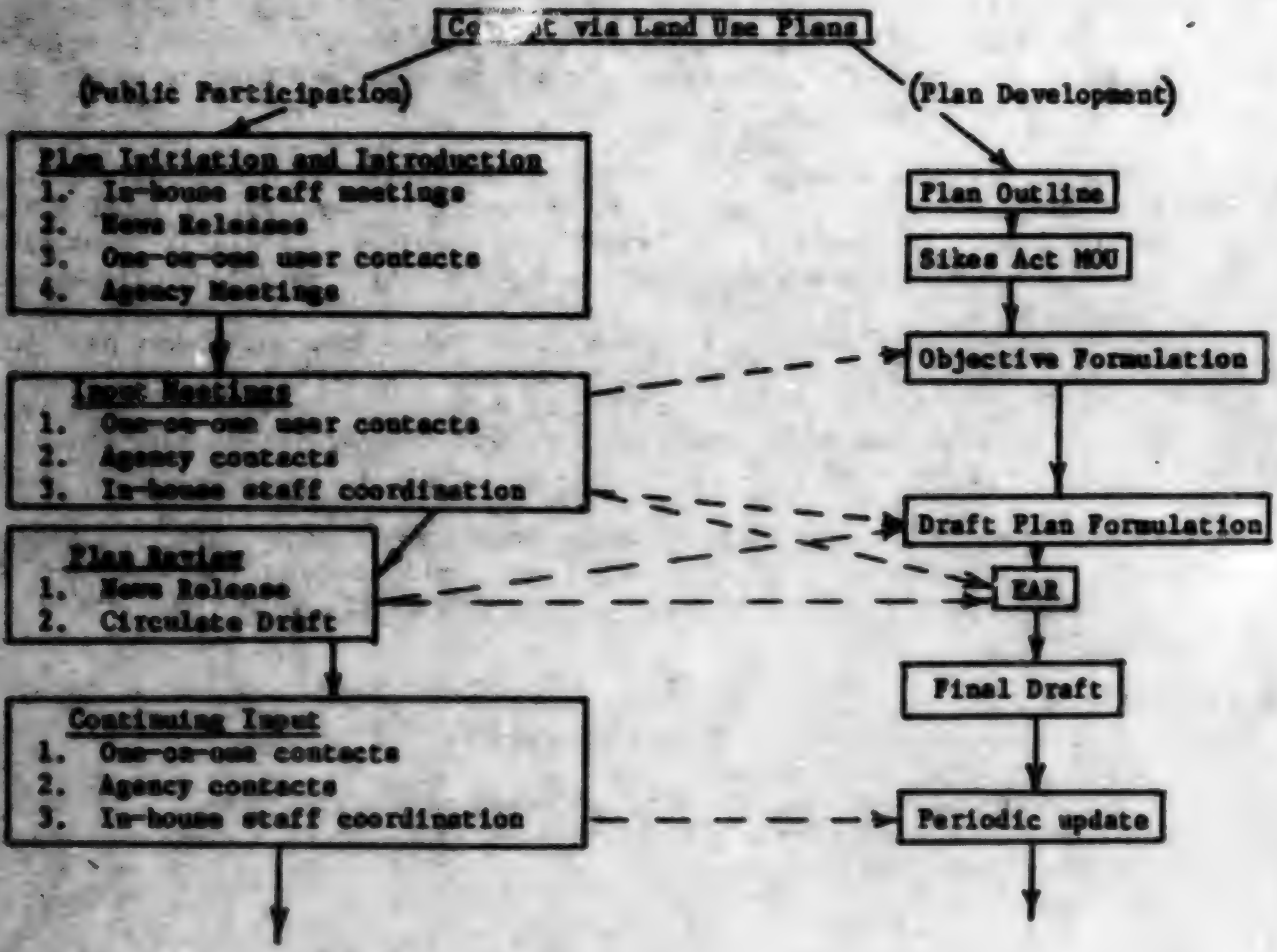
PUBLIC PARTICIPATION - ABSAROKA FRONT RMP

APPENDIX R

PLAN COORDINATION AND REVIEW/PUBLIC INVOLVEMENT

Coordination for the Absaroka Front Habitat Management Plan was initiated in December of 1982 and will continue throughout the life of the plan. Intensity of coordination efforts will differ from time to time depending on magnitude, type and scope of planned actions to be implemented.

The chart below illustrates the public involvement approach throughout the Absaroka front HMP development.



BLM Staff and Management Coordination

On December 27, 1982, an initial meeting was held with District wildlife staff. The purpose of this meeting was to review manuals, past procedural obstacles to HMP development, and formulate general strategies to avoid costly delays.

On January 13, 1983, a meeting with John Moorhouse was held to discuss initial involvement of the Planning and Environmental Coordination staff in format and public participation plan development.

On January 24, 1983, a meeting was held with the Grass Creek Area Manager, District staff biologists and Resources chief to identify HMP boundaries, justification for the HMP, determine priority species and discuss order of early stage HMP development.

On January 27, 1983, a meeting was held with the Grass Creek Area Manager to review preliminary objectives and to set the stage for area staff meeting to discuss the HMP. A rewrite of objectives resulted from this meeting. Interagency coordination and public participation planning were also discussed.

On February 10, 1983, a meeting with the Grass Creek Area staff was held to discuss initiation, purpose, objectives, rationale and probable scheduling of HMP preparation and the need for their review. Boundaries, potential conflicts, and scheduling were discussed. At this meeting it was also decided to initiate agency and user contacts.

On March 18, 1983, a meeting with the Grass Creek Area Manager, John Moorhouse (P&EC chief) and District biologist staff was held to plan the needs of a public participation plan. The results of this meeting resulted in the following items:

1. Firm up objectives
2. Draft a rough schedule of HMP preparation
3. Brief resources staff members
4. Draft Memorandum of Understanding with appropriate agencies
5. Initiate one-on-one meetings with users with objectives and ask for input
6. Identify press coverage
7. Write document

On March 31, 1983, met briefly with John Thompson, P&EC on approaches to economics portion of the HMP. John noted a least cost approach to be recommended over several alternative approaches.

On May 4-6, meetings were held with the District Menger, Area Manager, Chief of Resources and District Resources staff biologists to finalize firmed up objectives.

BLM-Wyoming Game and Fish Department

On February 23, 1983, a meeting with WG&FD and Shoshone National Forest (SNF) was held to discuss boundaries, approach, objectives and initiate input from WG&FD. Jim Lawrence and Cal King represented WG&FD.

It was agreed that yearlong habitats, including winter and summer use areas should be managed as a unit. Agreement in the concept of the HMP was unanimous. Tentative SNF HMP area boundaries were discussed and established based on known distribution data and knowledge.

On February 2, 1985, a Supplemental Memorandum of Understanding for Sikes Act preparation and implementation of the Absaroka Front HMP was signed off by all appropriate WG&FD levels of authority (Appendix D).

On November 19, 1985, the Grass Creek staff biologist and Area Manager met with District 2 Wyoming Game and Fish personnel to discuss comments by that agency on the draft HMP to obtain mutual understanding of comments.

BLM-Shoshone National Forest

On February 23, 1983, a meeting with the Greybull District Ranger, John Ross and Monte Barker was held to coordinate initial HMP development. It was agreed at that time the USFS would like to be included in a 3-way MOU with BLM and WG&FD in regard to this HMP.

The Shoshone Forest indicated a preference to include FS lands south of the Wood River, East of the Middle Fork of Wood River and North of the Wood River - Wind River Divide. The proposal that an HMP should cover yearlong habitat needs of the majority of populations of featured species and that this HMP would provide a focal point to coordinate habitat related actions between agencies was mutually agreeable.

It was understood that actual habitat projects will be undertaken by the individual agencies based on their planning and budgeting, but can be coordinated as to location and distribution through time.

On March 18, 1985, a Supplemental Memorandum of Understanding for the preparation and implementation of the Absaroka Front HMP was signed by the Regional Forester and Forest Supervisor levels of authority.

Letters to Users

On May 18, 1983, a letter to all known BLM range permittees, timber operators, guides and outfitters, and oil and gas companies that utilize the HMP area was sent out. All letters noted that BLM, WG&FD, State Lands Department and Wind River Indian Reservation were coordinating development of the Absaroka Front HMP. The purpose of the HMP and an invitation to provide input were included. Users were put on notice that we would be arranging one-on-one meetings with them.

Upon completion of the review draft of the HMP a letter dated September 24, 1985 and HMP abstract was sent to all users to solicit further input and comment for the final document preparation.

BLM - Soil Conservation Service

On January 23, 1984, a meeting with the Soil Conservation Service was held to discuss objectives, scheduling and to initiate input from them relative to this HMP. The cooperative nature of the HMP, different funding requirements of both agencies, and information regarding future plans in the HMP area were discussed.

Worland District Advisory Board

On November 25, 1985 the Worland District Advisory Board and Dick Loper, private consultant, met with the appropriate Grass Creek Area Staff personnel to discuss comments on the draft HMP.

News Releases

News releases were sent to Big Horn Basin newspapers on May 29, 1984, to inform the general public of plan preparation. Locally a full page article was devoted to the HMP.

On September 20, 1985 a news release to local and regional newspapers was made informing the public of HMP draft completion and to solicit comment and input. Copies of the document were available for review in Cody and Worland.

Private Organization Presentation

An informational presentation was given to the Hot Springs County Sportsmens Club as to this HMP's objectives, boundaries, and the follow through of land use planning decisions into the HMP for implementation.

Grazing Permittee Contacts

From July 1983 through January 1984, meetings were held with individuals having grazing permits on BLM administered grazing allotments in the HMP area. The following permittees or their representatives were contacted on a one-on-one basis:

Joe Campbell
Maxine and Gary Kellogg
Frank Rhodes
John Leroux
Leslie Webber
John Rankine
Anthony Martinez
Hugh Vass

Red Gilbreath
Stanley Pennoyer
Matt Brown
Dave Murdock
Ralph Larsen
Mike May
Lloyd Dewey
Larry Bentley

Emmul Dvariskis
Dan Healy
Ollie Kukla
James Brown
Carl Dockery
Jim Gould
Ed Shaffer
Hugh & Leon Baird

Other permittees not listed here were contacted by phone. Their use areas are scattered lands with few wildlife conflicts and do not warrant priority actions at the initial HMP implementation stages.

Outfitters	Timber Interests
Hugh Baird	J. W. Yetter
Daniel Dvoriskin	Grass Creek Lumber Co.
Stanley Pennoyer	Louisiana Pacific Lumber Co.
Earl Brost	Cody Lumber

Oil and Gas Companies - contact by letter and phone

Davis Oil Co.
Florida Exploration
Brinkerhoff Drilling
Trigg Drilling
Petro-Lewis Corporation
Santa Fe Energy Co.
Marathon Oil Company
Denver-Alaska Oil Co.
Brandon and Caines
American Quasar Petroleum Co.
Montana Dakota Utilities
Continental Oil
Dome Petroleum Corporation
Amoco Production Co.
Coronado Oil Company

All users were presented the same programs as summarized below:

> The Absaroka Front Habitat Management is being prepared under the direction of the Worland District Manger for the purpose of implementing land use planning decisions which are directed at improvement and maintenance of wildlife habitat. Implementation of said decisions will be through on the ground project actions. Projects will be done on public lands in close coordination with livestock grazing management priorities.
>
> The Wyoming Game and Fish Department and Shoshone National Forest are cooperators in this HMP effort to facilitate funding for implementation. WG&F Strategic Plan Goals are the base for habitat improvement goals. Funding will be from the BLM wildlife program. Projects will be accomplished first and foremost for wildlife; however benefits to livestock will also occur. Projects will be prioritized and completed as annual funding permits. Some funding and/or manpower could come from Soil Conservation Service, 8100, 7100, WGF and private sources. Cooperation between funding sources and individuals is key to the overall success of the plan.
>
> Projects to be considered in the plan include prescribed fire, water development, planting, fence modification, protection of sensitive habitat areas such as winter areas, calving, breeding and nesting areas for sage grouse and riparian areas.
>
> Close coordination with grazing management plans will be necessary. Allotments with management plans, cooperative agreements, or established grazing systems will be in place before any major commitment of HMP funds. Projects will be cost effective before implementation.

Projects would be undertaken on allotments with the greatest potential to alleviate conflict and greatest return for the investment. SCS Great Plains Plans, Cooperative Management Plans (CMAs), timber management plans, and vehicle access plans will all be high priority cooperative efforts within the HMP.

Users were asked to provide input over the next year regarding their use areas and identify potential projects of the nature discussed. Existing project, conflicts and potential projects were discussed. All users were advised that they would be contacted prior to any project work on their use areas.

Utilizing all comments to this point, a preliminary review draft was prepared for an initial internal technical review. Upon completion of this internal review a draft was prepared for public and agency review. Draft documents were sent to the following.

Wyoming Game and Fish Department (4 copies)	Cheyenne & Cody, WY
U. S. Forest Service-Shoshone National Forest (2 copies)	Meeteetse & Cody, WY
Wind River Indian Reservation (3 copies)	Fort Washakie, WY
Bureau of Land Management-State Office	Cheyenne, WY
U. S. Fish and Wildlife Service (Ecological Services)	Cheyenne, WY
Wyoming Department of Environmental Quality, Water Quality Division	Cheyenne, WY
U. S. Soil Conservation Service	Worland, WY

A letter and abstract were sent to all grazing permittees, oil and gas companies, outfitters, sportsmen clubs, and timber companies on September 24, 1985, to solicit further comment and input for the final document preparation. The following letters are copies of letters sent to resource users notifying them of HMP initiation (May 24, 1983 letters) and of review Draft HMP completion September 24, 1985:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

District Office
P. O. Box 119
Worland, Wyoming 82401

IN REPLY REFER TO
6620.2

Dear Resource User:

The Grass Creek Resource Area is beginning preparation of the Absaroka Front Habitat Management Plan. This habitat management plan (HMP) will outline management objectives and actions to improve and maintain wildlife habitat on public lands. The area effected in this plan comprises the major yearlong habitats of priority species and is described as follows:

> West of Highway 120 between Meeteetse and Thermopolis, including the Red Canyon Area; North of Wind River Reservation boundary and the Wind River-Wood River Divide; East of the Middle Fork of Wood River; and South of Wood River and Greybull River as far as Meeteetse.

This plan will be developed cooperatively, involving resource users, Shoshone National Forest, Wyoming Game and Fish Department, Wind River Indian Reservation, and Wyoming State Lands Department. The plan will be designed to meet the objectives of the various agencies through the improvement of wildlife habitat; however, such improvements could benefit other uses such as livestock, timber, and recreation as well. Examples of improvements include vegetation alteration, water development, special habitat development areas, close cooperation with range management plans, and access management.

Prior to writing the plan, we want to discuss the habitat management plan objectives and get your input on ways to accomplish these objectives. We will be contacting you to arrange a meeting at your convenience.

If anyone has questions or input to this plan, they may discuss them with my staff at any time at the Worland District Office.

Thank you for your time and effort.

Sincerely yours,

Joseph M Wichman

Joseph M. Wichman
Grass Creek Resource Area Manager

IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WORLAND DISTRICT OFFICE
P.O. Box 119
Worland, Wyoming 82401

Telephone (307) 347-9871

6620
(170)
Absaroka Front
HMP

Dear Resource User:

The Grass Creek Resource Area has completed the Draft of the Absaroka Front Habitat Management Plan (HMP). Attached is an abstract which briefly summarizes the HMP.

There are copies of the HMP available at the Worland District Office of the Bureau of Land Management for your review and comment. We would appreciate your comments by October 15, 1985 to be included in the final document. During the implementation of this HMP, you will be contacted whenever a project is scheduled in your use area.

Thank you for your time and cooperation.

Sincerely yours,

Phyllis Roseberry
Phyllis Roseberry
Grass Creek Area Manager

Enclosure

U.S. GOVERNMENT PRINTING OFFICE: [illegible]

END

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